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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	Jun 03	New e-mail delivery for search results now available
NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 39	May 16	CHEMREACT will be removed from STN
NEWS 40	May 19	Simultaneous left and right truncation added to WSCA
NEWS 41	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation

NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT

```
                MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
                AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS     STN Operating Hours Plus Help Desk Availability
 NEWS INTER     General Internet Information
 NEWS LOGIN     Welcome Banner and News Items
 NEWS PHONE     Direct Dial and Telecommunication Network Access to STN
 NEWS WWW       CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
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FILE 'HOME' ENTERED AT 13:36:13 ON 03 JUN 2003

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'REGISTRY' ENTERED AT 13:36:28 ON 03 JUN 2003
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STRUCTURE FILE UPDATES:    1 JUN 2003  HIGHEST RN 523977-56-2
DICTIONARY FILE UPDATES:   1 JUN 2003  HIGHEST RN 523977-56-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

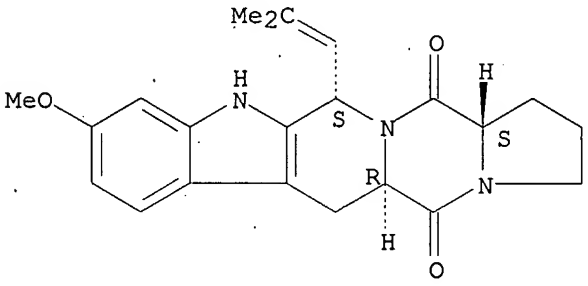
=> e fumitremorgin
E1            4     FUMITOXIN/BI
E2            1     FUMITREMORGEN/BI
E3           36 --> FUMITREMORGIN/BI
E4            3     FUMJUDAINE/BI
E5            1     FUMMITE/BI
E6            2     FUMOFICIN/BI
E7            1     FUMOFICINAL/BI
E8            1     FUMOFICINALINE/BI
E9            1     FUMOFICINAMINE/BI
E10         145     FUMONISIN/BI
E11           7     FUMOSA/BI
E12           1     FUMOSIAVELLANEA/BI
```

```
=> s e1-e3
             4 FUMITOXIN/BI
             1 FUMITREMORGEN/BI
            36 FUMITREMORGIN/BI
L1          40 (FUMITOXIN/BI OR FUMITREMORGEN/BI OR FUMITREMORGIN/BI)

=> d l1 1-40

L1   ANSWER 1 OF 40  REGISTRY  COPYRIGHT 2003 ACS
RN   119066-64-7  REGISTRY
CN   5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-
     dione, 1,2,3,5a,6,11,12,14-octahydro-9-methoxy-12-(2-methyl-1-propenyl)-,
     [5aR-(5a.alpha.,12.alpha.,14a.beta.)]- (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   12.beta.-Fumitremorgin C
FS   STEREOSEARCH
MF   C22 H25 N3 O3
SR   CA
LC   STN Files:   BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
         (*File contains numerically searchable property data)

Absolute stereochemistry.
```

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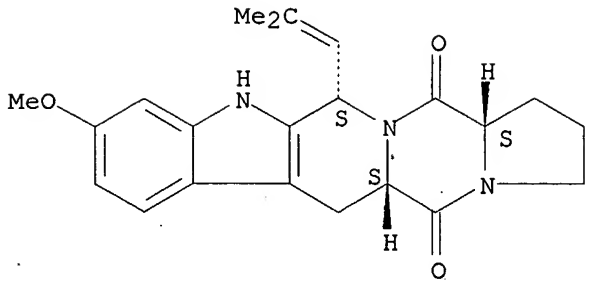
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

              2 REFERENCES IN FILE CA (1957 TO DATE)
              2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1   ANSWER 2 OF 40  REGISTRY  COPYRIGHT 2003 ACS
RN   118974-02-0  REGISTRY
CN   5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-
     dione, 1,2,3,5a,6,11,12,14a-octahydro-9-methoxy-12-(2-methyl-1-propenyl)-,
     (5aS,12S,14aS)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-
     dione, 1,2,3,5a,6,11,12,14a-octahydro-9-methoxy-12-(2-methyl-1-propenyl)-,
     [5aS-(5a.alpha.,12.beta.,14a.alpha.)]-
OTHER NAMES:
CN   12.alpha.-Fumitremorgin C
CN   Fumitremorgin C
FS   STEREOSEARCH
MF   C22 H25 N3 O3
SR   CA
LC   STN Files:   AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS,
       CASREACT, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)

Absolute stereochemistry.
```

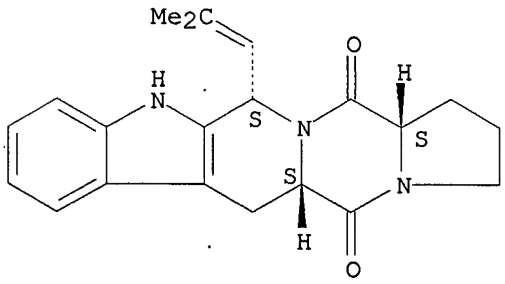


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

28 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
28 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 3 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 111768-16-2 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-12-(2-methyl-1-propenyl)-, (5aS,12S,14aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-12-(2-methyl-1-propenyl)-, [5aS-(5a.alpha.,12.beta.,14a.alpha.)]-
OTHER NAMES:
CN **(+)-Demethoxyfumitremorgin C**
CN **Demethoxyfumitremorgin C**
FS STEREOSEARCH
MF C21 H23 N3 O2
SR CA
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, CHEMINFORMRX, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).



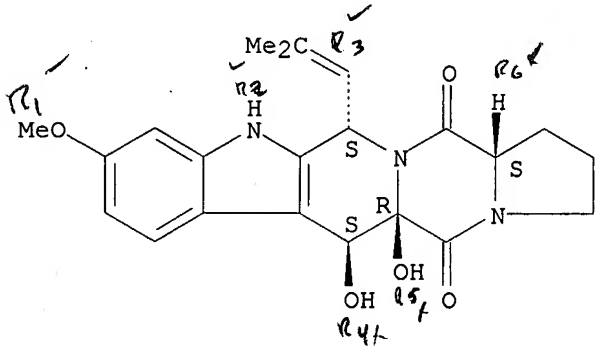
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

16 REFERENCES IN FILE CA (1957 TO DATE)
16 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 4 OF 40 REGISTRY COPYRIGHT 2003 ACS

RN 111427-99-7 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **12,13-Dihydroxyfumitremorgin C**
CN TR 3
CN TR 3 toxin
CN Verruculogen TR 3
FS STEREOSEARCH
MF C22 H25 N3 O5
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.

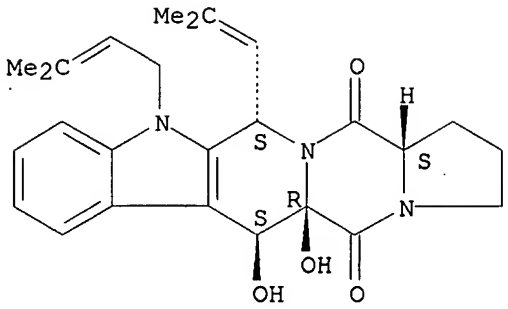


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1957 TO DATE)
7 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 5 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 111427-98-6 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Demethoxyfumitremorgin B**
FS STEREOSEARCH
MF C26 H31 N3 O4
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.

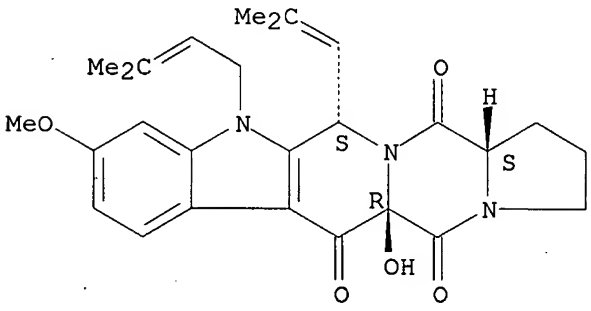


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 6 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 111080-12-7 REGISTRY
CN 1H,5H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,6,14(5aH,14aH)-trione, 2,3,11,12-tetrahydro-5a-hydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5aR,12S,14aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H,5H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,6,14(5aH,14aH)-trione, 2,3,11,12-tetrahydro-5a-hydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,12.beta.,14a.alpha.)]-
OTHER NAMES:
CN **13-Oxofumitremorgin B**
FS STEREOSEARCH
MF C27 H31 N3 O5
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.



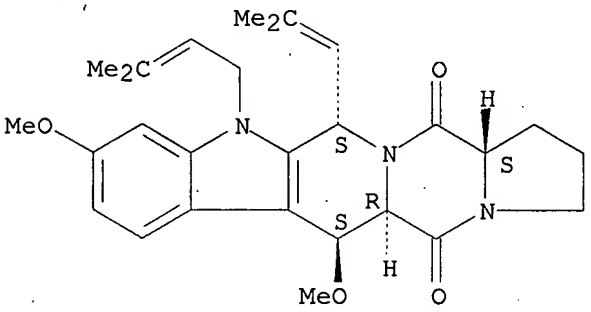
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 7 OF 40 REGISTRY COPYRIGHT 2003 ACS

RN 107977-03-7 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-6,9-dimethoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5a.alpha.,6.beta.,12.alpha.,14a.beta.)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-6,9-dimethoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5a.alpha.,6.beta.,12.alpha.,14a.beta.)-(.+-.)-
OTHER NAMES:
CN **(.+-.)-12-Deoxy-13-O-methyl-12-epifumitremorgin B**
FS STEREOSEARCH
MF C28 H35 N3 O4
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)

Relative stereochemistry.

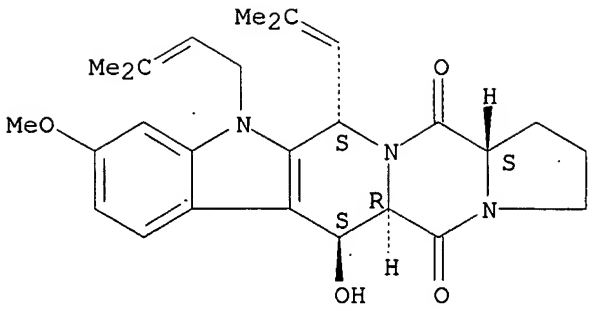


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 8 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 107977-02-6 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-6-hydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5a.alpha.,6.beta.,12.alpha.,14a.beta.)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-6-hydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5a.alpha.,6.beta.,12.alpha.,14a.beta.)-(.+-.)-
OTHER NAMES:
CN **(.+-.)-12-Deoxy-12-epifumitremorgin B**
FS STEREOSEARCH
MF C27 H33 N3 O4
SR CA
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

Relative stereochemistry.

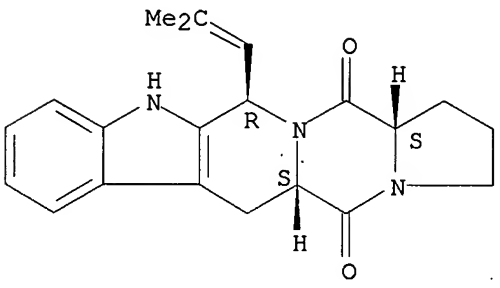


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 9 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 106292-68-6 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-12-(2-methyl-1-propenyl)-, [5aS-(5a.alpha.,12.alpha.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Demethoxy-3-epifumitremorgin C**
FS STEREOSEARCH
MF C21 H23 N3 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMINFORMRX
(*File contains numerically searchable property data)

Absolute stereochemistry.



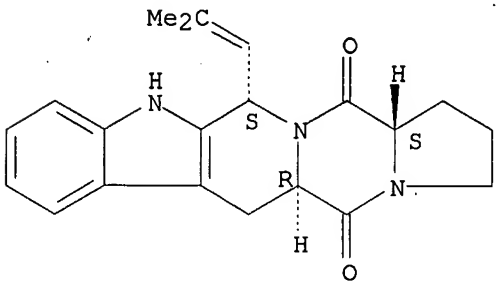
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 10 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 106211-91-0 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,12.alpha.,14a.beta.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Demethoxy-12-epifumitremorgin C**
FS STEREOSEARCH

MF C21 H23 N3 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMINFORMRX
(*File contains numerically searchable property data)

Absolute stereochemistry.

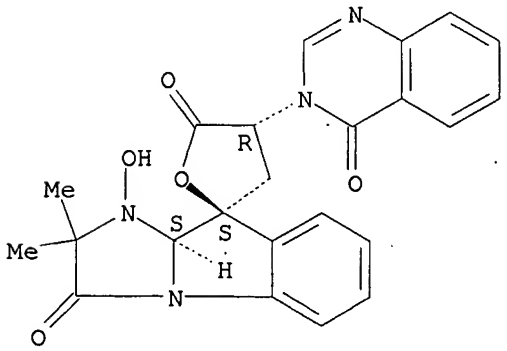


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 11 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 80558-95-8 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, [9'.alpha.(S*),9'a.beta.]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, [9'.alpha.(S*),9'a.beta.]-(.+-.)-
OTHER NAMES:
CN (.+-.)-FTG
CN **(.+-.)-Fumitremorgin G**
CN (.+-.)-Tryptoquivaline G
FS STEREOSEARCH
MF C23 H20 N4 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Relative stereochemistry.

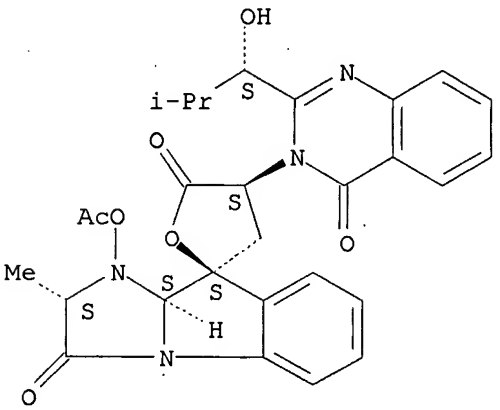


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 12 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 71658-19-0 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-1',3,4,9'a-tetrahydro-4-[2-(1-hydroxy-2-methylpropyl)-4-oxo-3(4H)-quinazolinyl]-2'-methyl-, [2'S-[2'.alpha.,9'.beta.[4R*(R*)],9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Deacetyl-12-epifumitremorgin D monoacetate**
CN Epideacetyl-FTD monoacetate
FS STEREOSEARCH
MF C28 H28 N4 O7
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

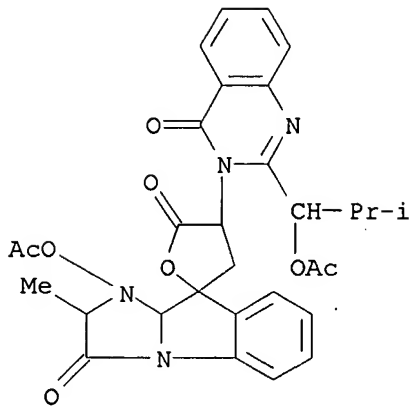
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 13 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 71658-06-5 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-2'-methyl-, [2'S-[2'.alpha.,9'.beta.[4R*(R*)],9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTM acetate
CN **Fumitremorgin M acetate**
CN Tryptoquivaline M acetate
MF C30 H30 N4 O8
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

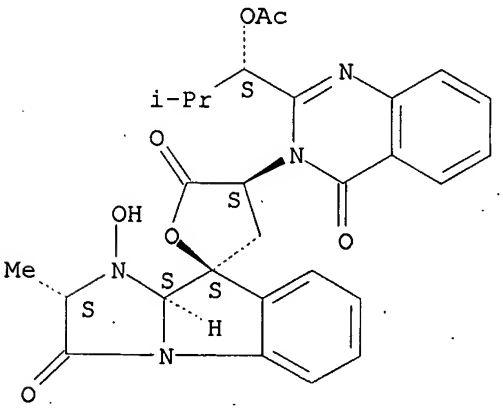


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE).
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 14 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 69575-59-3 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[(1S)-1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-, (2S,2'S,4S,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-, [2'S-[2'.alpha.,9'.beta.[4R*(R*)],9'a.alpha.]]-
OTHER NAMES:
CN FTM
CN **Fumitremorgin M**
CN Tryptoquivaline M
FS STEREOSEARCH
MF C28 H28 N4 O7
LC STN Files: BEILSTEIN*, CA, CAPLUS, NAPRALERT
(*File contains numerically searchable property data)

Absolute stereochemistry.

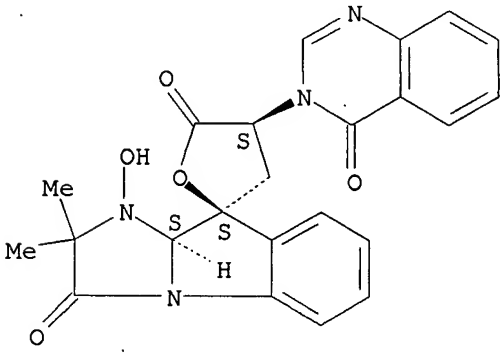


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 15 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 69483-20-1 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,4S,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, [9'S-[9'.alpha.(R*),9'a.beta.]]-
OTHER NAMES:
CN **19-Epifumitremorgin G**
CN 19-Epitryptoquivaline G
CN FTL
CN **Fumitremorgin L**
CN Tryptoquivaline L
FS STEREOSEARCH
MF C23 H20 N4 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, NAPRALERT
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 16 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 68817-01-6 REGISTRY
CN **Fumitoxin D (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 17 OF 40 REGISTRY COPYRIGHT 2003 ACS

RN 68817-00-5 REGISTRY
CN **Fumitoxin C (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

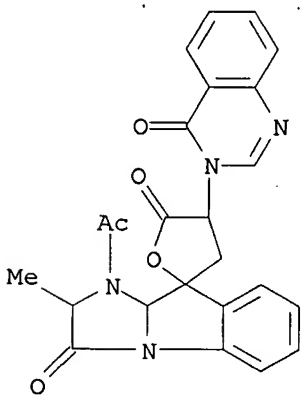
L1 ANSWER 18 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 68816-99-9 REGISTRY
CN **Fumitoxin B (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 19 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 66419-35-0 REGISTRY
CN **Fumitoxin A (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: BIOSIS, CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9 REFERENCES IN FILE CA (1957 TO DATE)
9 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 20 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 66212-52-0 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
1'-acetyl-1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-,
[2'S-[2'.alpha.,9'.beta.(S*),9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTJ acetate
CN **N-Acetylfumitremorgin J**
CN N-Acetyltryptoquivaline J
MF C24 H20 N4 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

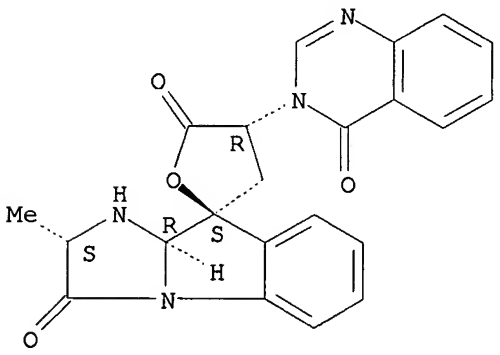


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 21 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 66212-51-9 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,2'S,4R,9'aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(S*),9'a.alpha.]]-
OTHER NAMES:
CN FTJ
CN **Fumitremorgin J**
CN Tryptoquivaline J
FS STEREOSEARCH
MF C22 H18 N4 O4
LC STN Files: ANABSTR, BEILSTEIN*, CA, CAPLUS, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).

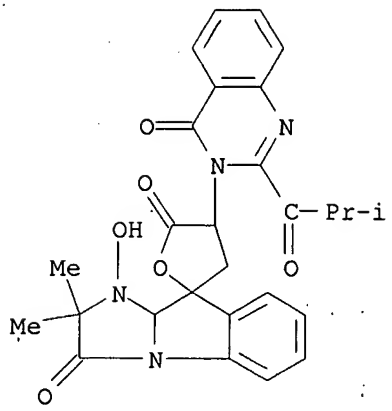


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 22 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 66180-23-2 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-[2-(2-methyl-1-oxopropyl)-4-oxo-3(4H)-quinazolinyl]-, (2S,4R,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-[2-(2-methyl-1-oxopropyl)-4-oxo-3(4H)-quinazolinyl]-, [9'S-[9'.alpha.(S*),9'a.beta.]]-
OTHER NAMES:
CN FTI
CN **Fumitremorgin I**
CN Tryptoquivaline I

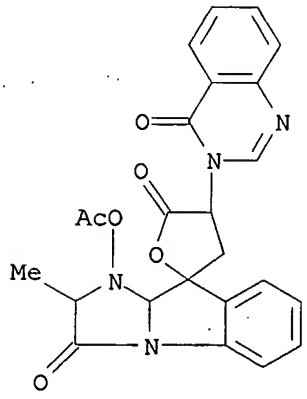
MF C27 H26 N4 O6
LC STN Files: BEILSTEIN*, CA, CAPLUS, NAPRALERT
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 23 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61949-68-6 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(S*),9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTE acetate
CN **Fumitremorgin E acetate**
CN Tryptoquivaline E acetate
MF C24 H20 N4 O6
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

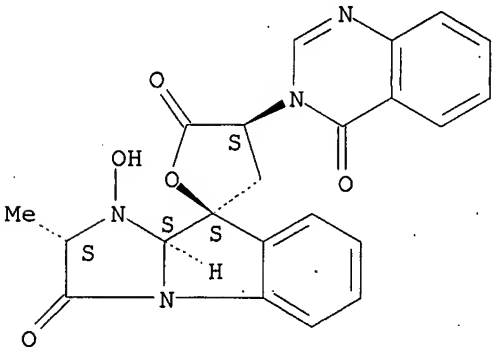


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 24 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61949-67-5 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,2'S,4S,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(R*),9'a.alpha.]]-
OTHER NAMES:
CN FTH
CN **Fumitremorgin H**
CN Tryptoquivaline H
FS STEREOSEARCH
MF C22 H18 N4 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, NAPRALERT
(*File contains numerically searchable property data)

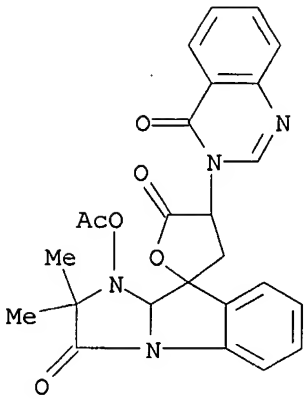
Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 25 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-92-5 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-1',3,4,9'a-tetrahydro-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, [9'S-[9'.alpha.(S*),9'a.beta.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTG acetate
CN **Fumitremorgin G acetate**
CN Tryptoquivaline G acetate
MF C25 H22 N4 O6
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

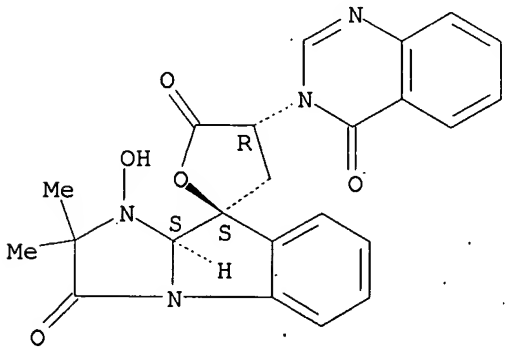


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 26 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-91-4 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,4R,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-4-(4-oxo-3(4H)-quinazolinyl)-, [9'S-[9'.alpha.(S*),9'a.beta.]]-
OTHER NAMES:
CN FTG
CN **Fumitremorgin G**
CN Tryptoquivaline G
FS STEREOSEARCH
MF C23 H20 N4 O5
LC STN Files: AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

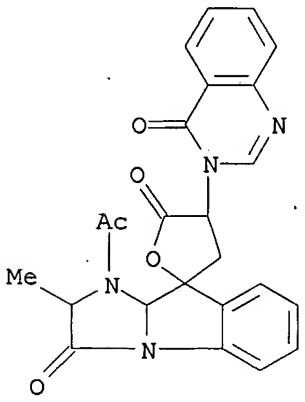
Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6 REFERENCES IN FILE CA (1957 TO DATE)
6 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 27 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-90-3 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-acetyl-1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(R*),9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTF acetate
CN **Fumitremorgin F acetate**
CN **N-Acetylfumitremorgin F**
CN N-Acetyltryptoquivaline F
MF C24 H20 N4 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

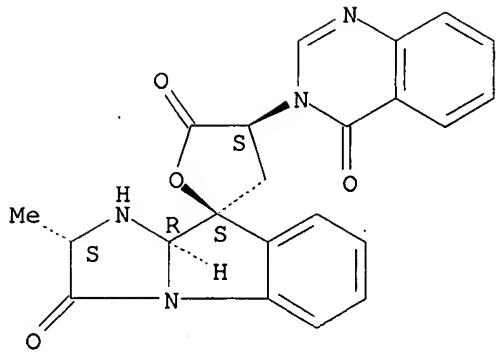


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 28 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-89-0 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,2'S,4S,9'aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(R*),9'a.alpha.]]-
OTHER NAMES:
CN FTF
CN **Fumitremorgin F**
CN Tryptoquivaline F
FS STEREOSEARCH
MF C22 H18 N4 O4
LC STN Files: ANABSTR, BEILSTEIN*, CA, CAPLUS, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

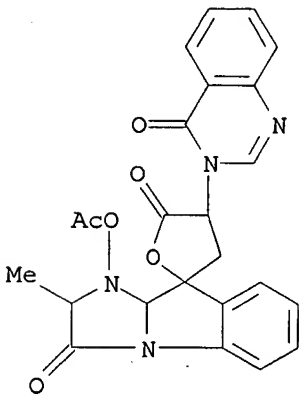
Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 29 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-88-9 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-1',3,4,9'a-tetrahydro-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, [2'S-[2'.alpha.,9'.beta.(R*),9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTH acetate
CN **Fumitremorgin H acetate**
CN Tryptoquivaline H acetate
MF C24 H20 N4 O6
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



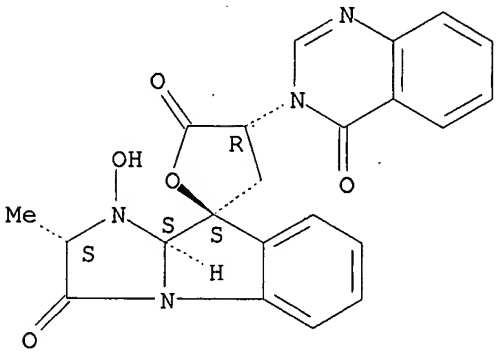
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 30 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 61897-87-8 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-, (2S,2'S,4R,9'aS)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-4-(4-oxo-3(4H)-quinazolinyl)-,
[2'S-[2'.alpha.,9'.beta.(S*),9'a.alpha.]]-
OTHER NAMES:
CN FTE
CN **Fumitremorgin E**
CN Tryptoquivaline E
FS STEREOSEARCH
MF C22 H18 N4 O5
LC STN Files: AGRICOLA, BEILSTEIN*, BIOSIS, CA, CAPLUS, NAPRALERT,
TOXCENTER
(*File contains numerically searchable property data)

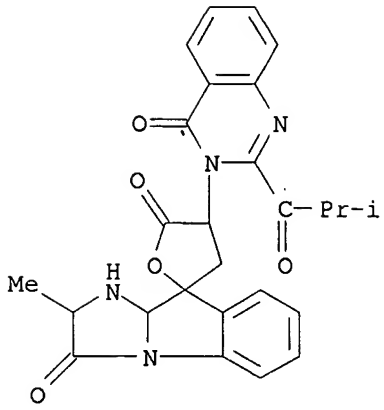
Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

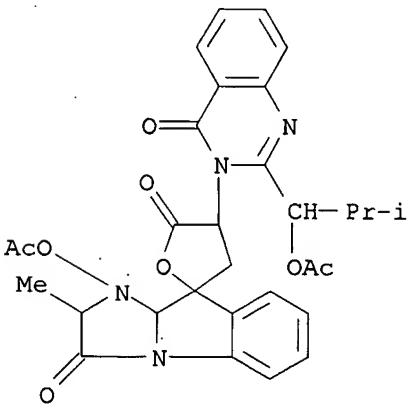
L1 ANSWER 31 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 60676-61-1 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
1',3,4,9'a-tetrahydro-2'-methyl-4-[2-(2-methyl-1-oxopropyl)-4-oxo-3(4H)-
quinazolinyl]-, (2S,2'S,4R,9'aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
1',3,4,9'a-tetrahydro-2'-methyl-4-[2-(2-methyl-1-oxopropyl)-4-oxo-3(4H)-
quinazolinyl]-, [2'S-[2'.alpha.,9'.beta.(S*),9'a.alpha.]]-
OTHER NAMES:
CN 1'-Deoxytryptoquivalone
CN Deoxynortryptoquivalone
CN Deoxytryptoquivaline B
CN **Fumitremorgin N**
CN Tryptoquivaline N
MF C26 H24 N4 O5
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 32 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 60676-59-7 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-2'-methyl-, [2'S-[2'.alpha.,9'.beta.[4S*(R*)],9'a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN FTD acetate
CN **Fumitremorgin D acetate**
CN Norisotryptoquivaline acetate
CN Nortryptoquivaline acetate
CN O-Acetyl-2'-demethyltryptoquivaline A
DR 61949-66-4, 71658-07-6
MF C30 H30 N4 O8
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)



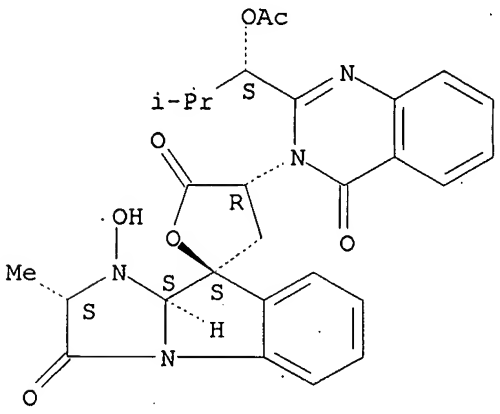
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 33 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 60676-56-4 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[(1S)-1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-, (2S,2'S,4R,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2'-methyl-, [2'S-[2'.alpha.,9'.beta.[4S*(R*)],9'a.alpha.]]-
OTHER NAMES:
CN 2'-Demethyltryptoquivaline
CN FTD
CN **Fumitremorgin D**
CN Nortryptoquivaline
CN Nortryptoquivaline A
CN Tryptoquivaline D
FS STEREOSEARCH
MF C28 H28 N4 O7
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).

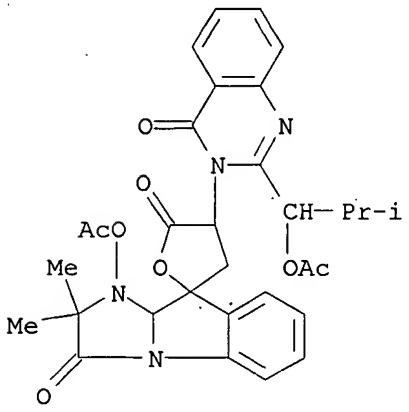


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 34 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 55387-47-8 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 1'-(acetyloxy)-4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-2',2'-dimethyl-, [9'S-[9'.alpha.[4S*(R*)],9'a.beta.]]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Fumitremorgin C acetate**
CN Tryptoquivaline A acetate

CN Tryptoquivaline acetate
MF C31 H32 N4 O8
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

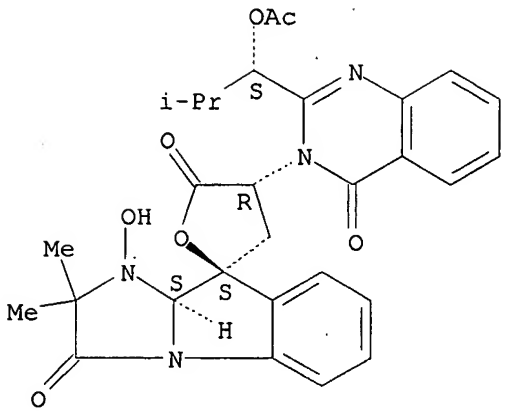


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 35 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 55387-45-6 REGISTRY
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[(1S)-1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-, (2S,4R,9'aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione, 4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-, [9'S-[9'.alpha.[4S*(R*)],9'a.beta.]]-
OTHER NAMES:
CN **Fumitremorgin C**
CN Tryptoquivaline
CN Tryptoquivaline A
CN Tryptoquivaline C
FS STEREOSEARCH
MF C29 H30 N4 O7
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, EMBASE, MEDLINE, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).

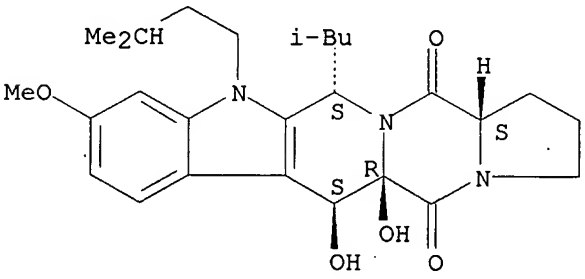


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12 REFERENCES IN FILE CA (1957 TO DATE)
12 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 36 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 54009-33-5 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methylbutyl)-12-(2-methylpropyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Tetrahydrofumitremorgin B**
CN Tetrahydrolanosulin
FS STEREOSEARCH
MF C27 H37 N3 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.



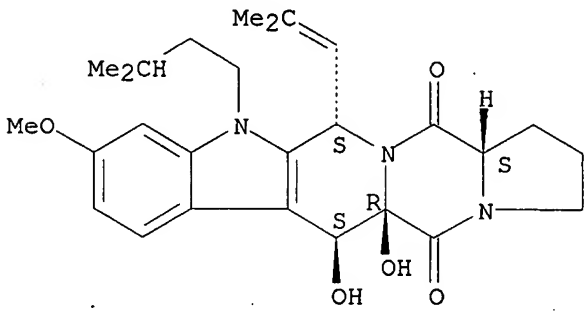
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 37 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 54009-32-4 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methylbutyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)

OTHER NAMES:
CN **22,23-Dihydrofumitremorgin B**
CN **Dihydrofumitremorgin B**
CN Dihydrolanosulin
FS STEREOSEARCH
MF C27 H35 N3 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.

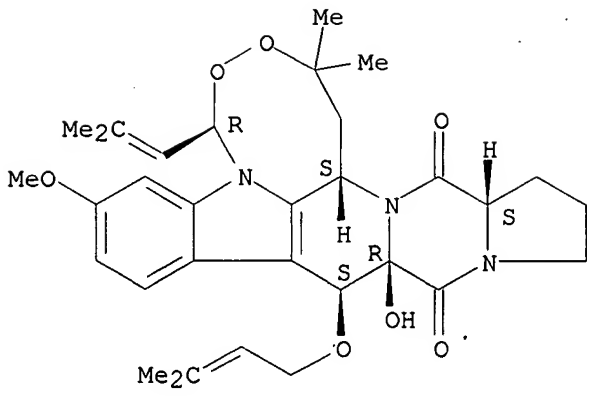


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 38 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 12626-18-5 REGISTRY
CN 5H,12H-3,4-Dioxa-5a,11a,15a-triazacyclooct[lm]indeno[5,6-b]fluorene-11,15(2H,13H)-dione, 1,10,10a,14,14a,15b-hexahydro-10a-hydroxy-7-methoxy-2,2-dimethyl-10-[(3-methyl-2-butenyl)oxy]-5-(2-methyl-1-propenyl)-, (5R,10S,10aR,14aS,15bS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,12H-3,4-Dioxa-5a,11a,15a-triazacyclooct[lm]indeno[5,6-b]fluorene-11,15(2H,13H)-dione, 1,10,10a,14,14a,15b-hexahydro-10a-hydroxy-7-methoxy-2,2-dimethyl-10-[(3-methyl-2-butenyl)oxy]-5-(2-methyl-1-propenyl)-, [5R-(5.alpha.,10.alpha.,10a.alpha.,14a.alpha.,15b.alpha.)]-
OTHER NAMES:
CN **Fumitremorgen A**
CN **Fumitremorgin A**
FS STEREOSEARCH
MF C32 H41 N3 O7
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPLUS, DDFU, DRUGU, EMBASE, MEDLINE, NAPRALERT, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.

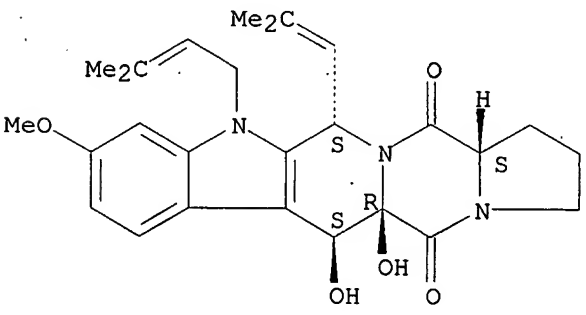


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

24 REFERENCES IN FILE CA (1957 TO DATE)
24 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 39 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 12626-17-4 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5aR,6S,12S,14aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]-
OTHER NAMES:
CN **Fumitremorgin B**
CN Lanosulin
CN NA 209B
FS STEREOSEARCH
DR 40451-43-2
MF C27 H33 N3 O5
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPLUS, CASREACT, DDFU, DRUGU, EMBASE, MEDLINE, NAPRALERT, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

42 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
42 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 40 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 11100-25-7 REGISTRY
CN **Fumitremorgin (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	83.06	83.27

FILE 'CAPLUS' ENTERED AT 13:41:20 ON 03 JUN 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 3 Jun 2003 VOL 138 ISS 23
FILE LAST UPDATED: 2 Jun 2003 (20030602/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l1
L2 124 L1

=>

=> s hiv or herpes or viral or virus
49538 HIV
21375 HERPES
119994 VIRAL
282687 VIRUS
L3 315130 HIV OR HERPES OR VIRAL OR VIRUS

=> s l2 and l3
L4 0 L2 AND L3

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=> e chemotheraputic
E1            1     CHEMOTHERAPUETIC/BI
E2            1     CHEMOTHERAPUTANT/BI
E3            3 --> CHEMOTHERAPUTIC/BI
E4        35577     CHEMOTHERAPY/BI
E5            1     CHEMOTHERAPY2/BI
E6            1     CHEMOTHERAPYNAIVE/BI
E7            1     CHEMOTHERASPY/BI
E8           34     CHEMOTHERMAL/BI
E9            3     CHEMOTHERMIC/BI
E10           1     CHEMOTHERMICAL/BI
E11           2     CHEMOTHERMO/BI
E12           1     CHEMOTHERMOGENESIS/BI

=> s e1-e4
              1 CHEMOTHERAPUETIC/BI
              1 CHEMOTHERAPUTANT/BI
              3 CHEMOTHERAPUTIC/BI
          35577 CHEMOTHERAPY/BI
L5        35581 (CHEMOTHERAPUETIC/BI OR CHEMOTHERAPUTANT/BI OR CHEMOTHERAPUTIC/B
                I OR CHEMOTHERAPY/BI)

=> s l2 and l5
L6            3 L2 AND L5

=> d l6 1-3

L6   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2003 ACS
AN   2003:335139  CAPLUS
DN   138:332878
TI   Application of a human multidrug transporter (abcg2) variant as selectable
     marker in gene transfer to progenitor cells and in gene therapy
IN   Nemet, Katalin; Varadi, Gyorgy; Cervenak, Judit; Ujhelly, Olga; Sarkadi,
     Balazs; Varadi, Andras; Oezvegy, Csilla
PA   Solvo Biotechnology Inc., Hung.
SO   PCT Int. Appl., 44 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.          KIND  DATE          APPLICATION NO.  DATE
     ------------------  ----  --------      ---------------  --------
PI   WO 2003035685       A1    20030501      WO 2002-HU108    20021024
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
           GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
           LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
           PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
           UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
           RU, TJ, TM
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
           CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
           PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
           NE, SN, TD, TG
     WO 2002071073       A2    20020912      WO 2002-HU15     20020304
     WO 2002071073       A3    20030403
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
           GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
           LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
           PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
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UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI HU 2001-4446 A 20011024
WO 2002-HU15 A 20020304
HU 2002-3435 A 20021011
HU 2001-947 A 20010302

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2002:46901 CAPLUS
DN 137:125308
TI Solid phase synthesis of fumitremorgin-type and other indole alkaloids based on cyclization/cleavage strategy
AU van Loevezijn, Arnold; Rodenko, Boris; Sorm, Willem P.; van Maarseveen, Jan H.; Stegman, Karel; Visser, Geb M.; van Delft, Floris L.; Koomen, Gerrit-Jan
CS Laboratory of Organic Chemistry, Institute for Molecular Chemistry, University of Amsterdam, Amsterdam, NL-1018 WS, Neth.
SO Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 367-370. Editor(s): Epton, Roger. Publisher: Mayflower Scientific Ltd., Kingswinford, UK.
CODEN: 69CEGV; ISBN: 0-9515735-3-5
DT Conference
LA English
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1999:511178 CAPLUS
DN 131:143080
TI A multidrug resistance protein associated with antitumor drug resistance in breast cancer and a cDNA encoding it
IN Ross, Douglas D.; Doyle, L. Austin; Abruzzo, Lynne
PA University of Maryland, Baltimore, USA
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9940110	A1	19990812	WO 1999-US2577	19990205
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2319715	AA	19990812	CA 1999-2319715	19990205
AU 9927610	A1	19990823	AU 1999-27610	19990205
AU 755567	B2	20021212		
EP 1054894	A1	20001129	EP 1999-908097	19990205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

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            IE, FI
     US 6313277         B1    20011106      US 1999-245808    19990205
     JP 2002502592      T2    20020129      JP 2000-530538    19990205
     US 2003036645      A1    20030220      US 2001-961086    20010921
PRAI US 1998-73763P     P     19980205
     US 1999-245808     A3    19990205
     WO 1999-US2577     W     19990205
RE.CNT  3      THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> d his

     (FILE 'HOME' ENTERED AT 13:36:13 ON 03 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 13:36:28 ON 03 JUN 2003
                E FUMITREMORGIN
L1            40 S E1-E3

     FILE 'CAPLUS' ENTERED AT 13:41:20 ON 03 JUN 2003
L2           124 S L1
L3        315130 S HIV OR HERPES OR VIRAL OR VIRUS
L4             0 S L2 AND L3
                E CHEMOTHERAPUTIC
L5         35581 S E1-E4
L6             3 S L2 AND L5

=>

---Logging off of STN---


=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY     SESSION
FULL ESTIMATED COST                                19.30      102.57

STN INTERNATIONAL LOGOFF AT 13:45:07 ON 03 JUN 2003
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AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-**resistance** to diverse drugs is associated with primary cisplatin **resistance** in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The authors have previously obtained, by exposure to near continuous increasing concns. of cisplatin, a panel of human ovarian cancer cell lines that exhibit a wide range of primary **resistance** to the drug (9- to >400-fold). These cells had strikingly increased (4- to 50-fold) levels of glutathione (GSH) as compared with the drug-sensitive cells of origin (A. K. Godwin et al., Proc. Natl. Acad. Sci. USA, 89: 3070-3074, 1992). Using this panel of resistant cell lines, the authors evaluated cross-**resistance** to classical alkylating agents, natural product drugs, and irradn. Cross-**resistance** to carboplatin paralleled that of cisplatin, culminating is .apprx. 250-fold **resistance**. Similarly, melphalan cross-**resistance** continued to increase to >400-fold and again paralleled the primary cisplatin **resistance**. Cell lines with low to very high levels of **resistance** to cisplatin are 8-850-fold resistant to the epipodophyllotoxin deriv. etoposide. Cross-**resistance** is also obsd. for other natural product drugs, including Adriamycin (.apprx.80-fold), mitoxantrone (.apprx.440-fold), and taxol (.apprx.40-fold). Cross-**resistance** to irradn. is, however, modest (<2-fold). The cells with greatest primary **resistance** to cisplatin most commonly had the highest cross-**resistance** to the other drugs examd. The cross-**resistance** to the natural produce category drugs was found not to be mediated by the products of either the multidrug **resistance** 1 (MDR1) or multidrug **resistance** -assocd. protein (**MRP**) genes based on lack of coordinate increased expression or amplification of these genes as assessed by Northern and Southern blot analyses. Also, verapamil failed to markedly increase drug sensitivity. Although there was no indication that these natural product drug efflux pumps were operative, the authors obsd. decreased doxorubicin accumulation in these cell lines cross-resistant to natural products. Alternations in DNA topoisomerase II mRNA levels, which were obsd. in human tumor cell lines selected in vitro for **resistance** to etoposide or teniposide, were not detected. Only intracellular levels of GSH correlated with cross-**resistance** to these diverse anticancer agents and partial loss of **resistance** was assocd. with a marked decrease in glutathione levels. In the absence of alternative mechanisms, the authors speculate that the very broad clin. relevant cross-**resistance** seen in this model system may, at least in part, be the direct result of GSH-mediated drug inactivation or may be due to a combination of GSH conjugation to drug and conjugate efflux mediated by the putative ATP-dependent glutathione S-conjugate export pump.
ST cisplatin **resistance** neoplasm cross **resistance** glutathione
IT Neoplasm inhibitors
(cisplatin as, **resistance** to, cross-**resistance** to, in humans cells, GSH in mechanism of)
IT Radiation
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)
IT Biological transport

(of doxorubicin, in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT Drug **resistance**
(to cisplatin, cross-**resistance** to, in neoplasm of humans, GSH in mechanism of)

IT 148-82-3, Melphalan 33069-62-4, Taxol 33419-42-0, VP-16 41575-94-4, Carboplatin 65271-80-9, Mitoxantrone
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)

IT 23214-92-8, Adriamycin
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of, transport in relation to)

IT 70-18-8, Glutathione, biological studies
RL: BIOL (Biological study)
(in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT **15663-27-1**, Cisplatin
RL: BIOL (Biological study)
(**resistance** to, in neoplasm of humans, cross-**resistance** in, GSH in mechanism of)

=>

AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-**resistance** to diverse drugs is associated with primary cisplatin **resistance** in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The authors have previously obtained, by exposure to near continuous increasing concns. of cisplatin, a panel of human ovarian cancer cell lines that exhibit a wide range of primary **resistance** to the drug (9- to >400-fold). These cells had strikingly increased (4- to 50-fold) levels of glutathione (GSH) as compared with the drug-sensitive cells of origin (A. K. Godwin et al., Proc. Natl. Acad. Sci. USA, 89: 3070-3074, 1992). Using this panel of resistant cell lines, the authors evaluated cross-**resistance** to classical alkylating agents, natural product drugs, and irradn. Cross-**resistance** to carboplatin paralleled that of cisplatin, culminating is .apprx. 250-fold **resistance**. Similarly, melphalan cross-**resistance** continued to increase to >400-fold and again paralleled the primary cisplatin **resistance**. Cell lines with low to very high levels of **resistance** to cisplatin are 8-850-fold resistant to the epipodophyllotoxin deriv. etoposide. Cross-**resistance** is also obsd. for other natural product drugs, including Adriamycin (.apprx.80-fold), mitoxantrone (.apprx.440-fold), and taxol (.apprx.40-fold). Cross-**resistance** to irradn. is, however, modest (<2-fold). The cells with greatest primary **resistance** to cisplatin most commonly had the highest cross-**resistance** to the other drugs examd. The cross-**resistance** to the natural produce category drugs was found not to be mediated by the products of either the multidrug **resistance** 1 (MDR1) or multidrug **resistance** -assocd. protein (**MRP**) genes based on lack of coordinate increased expression or amplification of these genes as assessed by Northern and Southern blot analyses. Also, verapamil failed to markedly increase drug sensitivity. Although there was no indication that these natural product drug efflux pumps were operative, the authors obsd. decreased doxorubicin accumulation in these cell lines cross-resistant to natural products. Alternations in DNA topoisomerase II mRNA levels, which were obsd. in human tumor cell lines selected in vitro for **resistance** to etoposide or teniposide, were not detected. Only intracellular levels of GSH correlated with cross-**resistance** to these diverse anticancer agents and partial loss of **resistance** was assocd. with a marked decrease in glutathione levels. In the absence of alternative mechanisms, the authors speculate that the very broad clin. relevant cross-**resistance** seen in this model system may, at least in part, be the direct result of GSH-mediated drug inactivation or may be due to a combination of GSH conjugation to drug and conjugate efflux mediated by the putative ATP-dependent glutathione S-conjugate export pump.
ST cisplatin **resistance** neoplasm cross **resistance** glutathione
IT Neoplasm inhibitors
(cisplatin as, **resistance** to, cross-**resistance** to, in humans cells, GSH in mechanism of)
IT Radiation
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)
IT Biological transport

(of doxorubicin, in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT Drug **resistance**
(to cisplatin, cross-**resistance** to, in neoplasm of humans, GSH in mechanism of)

IT 148-82-3, Melphalan 33069-62-4, Taxol 33419-42-0, VP-16 41575-94-4, Carboplatin 65271-80-9, Mitoxantrone
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)

IT 23214-92-8, Adriamycin
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of, transport in relation to)

IT 70-18-8, Glutathione, biological studies
RL: BIOL (Biological study)
(in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT **15663-27-1**, Cisplatin
RL: BIOL (Biological study)
(**resistance** to, in neoplasm of humans, cross-**resistance** in, GSH in mechanism of)

=>

DN 124:285652
TI Alterations in expression of the multidrug **resistance**-associated protein (**MRP**) gene in high-grade transitional cell carcinoma of the bladder
AU Clifford, S. C.; Neal, D. E.; Lunec, J.
CS Medical School, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, NE2 4HH, UK
SO British Journal of Cancer (1996), 73(5), 659-66
CODEN: BJCAAI; ISSN: 0007-0920
PB Stockton
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 1
AB Expression of the **MRP** gene has been demonstrated in vitro to be a causal factor in non-P-glycoprotein-mediated multidrug **resistance**, and is implicated in **resistance** to a no. of the chemotherapeutic agents currently used in the treatment of high-grade transitional cell carcinoma (TCC) of the bladder (doxorubicin, epirubicin and vinblastine). Using a sensitive RT-PCR-based technique, we have quantified **MRP** mRNA levels in a series of untreated TCC (n=24), normal bladder (n=5) and control tissue and cell line samples. **MRP** mRNA was widely expressed and detectable in all samples analyzed, with considerable (up to 190-fold) variation obsd. between individual tumor samples. **MRP** mRNA levels found in TCC samples were lower than those detd. for normal peripheral mononucleocyte (2.3-fold) and testis (4.1-fold) samples, previously reported to be high-expressing tissues, and varied over a similar range to that obsd. in normal bladder samples. Results indicate that **MRP** mRNA levels in a greater proportion of high-grade (G3) bladder tumors (55%, 6/11) are significantly reduced (P=0.018) compared with low- and moderate-grade (G1/2) bladder tumors (8%, 1/13), and suggest that **MRP** mRNA levels frequently become reduced as a consequence of tumor progression to advanced, poorly differentiated disease. No correlation was apparent between **MRP** and MDR1 mRNA levels, thus providing no evidence to suggest common regulation of the two genes. In a limited no. of patients, no evidence was found to support a role for **MRP** mRNA levels as a determinant of response to chemotherapy in patients being uniformly treated with either cisplatin-methotrexate-vinblastine (n=6) or epirubicin-cisplatin-methotrexate (n=4) regimens. Similarly, no overall pattern of altered **MRP** mRNA expression was obsd. following chemotherapy in four patients from whom post chemotherapy biopsies were taken. This study provides a useful pilot investigation regarding the level, variation and pattern of **MRP** mRNA expression in TCC of the bladder, and suggests that further studies to establish the clin. significance of these variations are required.
ST multidrug **resistance** protein gene bladder carcinoma
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**MRP**; multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein (**MRP**); multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Neoplasm inhibitors
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Ribonucleic acids, messenger

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Bladder
(neoplasm, transitional cell carcinoma, multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT 59-05-2, Methotrexate 865-21-4, Vinblastine **15663-27-1**, Cisplatin 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

=>

AN 1996:96400 CAPLUS
DN 124:193617
TI Non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line
AU Naito, Seiji; Hasegawa, Shuji; Yokomizo, Akira; Koga, Hirofumi; Kotoh, Shuji; Kuwano, Michihiko; Kumazawa, Joichi
CS Fac. Medicine, Kyushu Univ., Fukuoka, 812, Japan
SO Japanese Journal of Cancer Research (1995), 86(11), 1112-18
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English
CC 1-6 (Pharmacology)
AB A human bladder cancer cell line resistant to adriamycin (ADM), T24/ADM9 has been established in vitro by exposing T24 parent cells to progressively higher concns. of the drug over a period of 12 mo. The T24/ADM9 cells were 9 times more resistant to ADM than the T24 parent, and showed various degrees of cross-**resistance** to an ADM deriv., vinca alkaloids and a DNA topoisomerase II (Topo II)-targeting agent, etoposide. No significant difference was obsd. in the cellular accumulation of ADM between the T24/ADM9 and T24 parent cells. A Northern blot anal. showed an overexpression of multidrug **resistance** -assocd. protein (**MRP**) mRNA, but no overexpression of multidrug **resistance**-1 (MDR1) mRNA was obsd. in the T24/ADM9 cells. A flow cytometric anal. showed that the MDR1 gene product, P-glycoprotein (Pgp), is not expressed on the T24/ADM9 cells. T24/ADM9 showed approx. the parental level of DNA Topo II catalytic activity. In Western blot and Northern blot analyses, however, the cellular level of DNA Topo II was apparently much lower in T24/ADM9 than in the T24 parent. Thus, these results suggest that a decreased cellular level of DNA Topo II and an overexpression of **MRP** gene may be responsible for the expression of an MDR phenotype in the T24/ADM9 cells and that such non-Pgp-mediated, atypical MDR may develop in bladder cancer treated with chemotherapy including ADM.
ST atypical multidrug resistant bladder cancer cell
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(multidrug **resistance**; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)
IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)
IT Neoplasm inhibitors
(bladder carcinoma, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT Drug **resistance**
(multi-, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT Bladder
(neoplasm, carcinoma, inhibitors, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT 50-07-7, Mitomycin C 51-21-8, 5 Fluorouracil 57-22-7, Vincristine 865-21-4, Vinblastine **15663-27-1**, Cisplatin 33419-42-0, Etoposide 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cross-**resistance**; non-P-glycoprotein-mediated atypical

multidrug **resistance** in a human bladder cancer cell line)

IT 142805-56-9, DNA topoisomerase II
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to decreased level of DNA Topo II)

IT 25316-40-9, Adriamycin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**resistance** to; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

=>

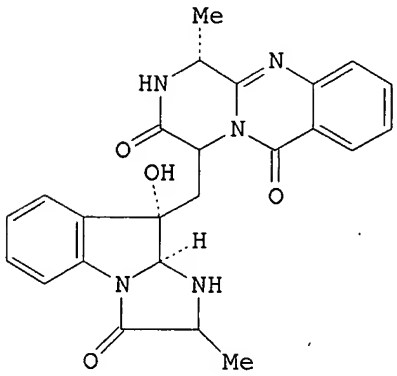
AN 124:193617 CAPLUS
TI Non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line
AU Naito, Seiji; Hasegawa, Shuji; Yokomizo, Akira; Koga, Hirofumi; Kotoh, Shuji; Kuwano, Michihiko; Kumazawa, Joichi
CS Fac. Medicine, Kyushu Univ., Fukuoka, 812, Japan
SO Japanese Journal of Cancer Research (1995), 86(11), 1112-18
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English
CC 1-6 (Pharmacology)
AB A human bladder cancer cell line resistant to adriamycin (ADM), T24/ADM9 has been established in vitro by exposing T24 parent cells to progressively higher concns. of the drug over a period of 12 mo. The T24/ADM9 cells were 9 times more resistant to ADM than the T24 parent, and showed various degrees of cross-resistance to an ADM deriv., vinca alkaloids and a DNA topoisomerase II (Topo II)-targeting agent, etoposide. No significant difference was obsd. in the cellular accumulation of ADM between the T24/ADM9 and T24 parent cells. A Northern blot anal. showed an overexpression of multidrug resistance-assocd. protein (MRP) mRNA, but no overexpression of multidrug resistance-1 (MDR1) mRNA was obsd. in the T24/ADM9 cells. A flow cytometric anal. showed that the MDR1 gene product, P-glycoprotein (Pgp), is not expressed on the T24/ADM9 cells. T24/ADM9 showed approx. the parental level of DNA Topo II catalytic activity. In Western blot and Northern blot analyses, however, the cellular level of DNA Topo II was apparently much lower in T24/ADM9 than in the T24 parent. Thus, these results suggest that a decreased cellular level of DNA Topo II and an overexpression of MRP gene may be responsible for the expression of an MDR phenotype in the T24/ADM9 cells and that such non-Pgp-mediated, atypical MDR may develop in bladder cancer treated with chemotherapy including ADM.
ST atypical multidrug resistant bladder cancer cell
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(multidrug resistance; non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line in relation to overexpression of MRP gene)
IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line in relation to overexpression of MRP gene)
IT Neoplasm inhibitors
(bladder carcinoma, non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line)
IT Drug resistance
(multi-, non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line)
IT Bladder
(neoplasm, carcinoma, inhibitors, non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line)
IT 50-07-7, Mitomycin C 51-21-8, 5 Fluorouracil 57-22-7, Vincristine 865-21-4, Vinblastine 15663-27-1, Cisplatin 33419-42-0, Etoposide 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cross-resistance; non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line)
IT 142805-56-9, DNA topoisomerase II
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

BIOL (Biological study); OCCU (Occurrence)
(non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line in relation to decreased level of DNA Topo II)

IT 25316-40-9, Adriamycin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(resistance to; non-P-glycoprotein-mediated atypical multidrug resistance in a human bladder cancer cell line)

=>

DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic leukemia cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure
IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)
IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT Neoplasm inhibitors
(leukemia, fumiquinazolines as, from Aspergillus fumigatus)
IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 111427-99-7, TR 3 111468-06-5 115589-18-9 118974-02-0, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=>

DN 124:285652
TI Alterations in expression of the multidrug **resistance**-associated protein (**MRP**) gene in high-grade transitional cell carcinoma of the bladder
AU Clifford, S. C.; Neal, D. E.; Lunec, J.
CS Medical School, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, NE2 4HH, UK
SO British Journal of Cancer (1996), 73(5), 659-66
CODEN: BJCAAI; ISSN: 0007-0920
PB Stockton
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 1
AB Expression of the **MRP** gene has been demonstrated in vitro to be a causal factor in non-P-glycoprotein-mediated multidrug **resistance**, and is implicated in **resistance** to a no. of the chemotherapeutic agents currently used in the treatment of high-grade transitional cell carcinoma (TCC) of the bladder (doxorubicin, epirubicin and vinblastine). Using a sensitive RT-PCR-based technique, we have quantified **MRP** mRNA levels in a series of untreated TCC (n=24), normal bladder (n=5) and control tissue and cell line samples. **MRP** mRNA was widely expressed and detectable in all samples analyzed, with considerable (up to 190-fold) variation obsd. between individual tumor samples. **MRP** mRNA levels found in TCC samples were lower than those detd. for normal peripheral mononucleocyte (2.3-fold) and testis (4.1-fold) samples, previously reported to be high-expressing tissues, and varied over a similar range to that obsd. in normal bladder samples. Results indicate that **MRP** mRNA levels in a greater proportion of high-grade (G3) bladder tumors (55%, 6/11) are significantly reduced (P=0.018) compared with low- and moderate-grade (G1/2) bladder tumors (8%, 1/13), and suggest that **MRP** mRNA levels frequently become reduced as a consequence of tumor progression to advanced, poorly differentiated disease. No correlation was apparent between **MRP** and MDR1 mRNA levels, thus providing no evidence to suggest common regulation of the two genes. In a limited no. of patients, no evidence was found to support a role for **MRP** mRNA levels as a determinant of response to chemotherapy in patients being uniformly treated with either cisplatin-methotrexate-vinblastine (n=6) or epirubicin-cisplatin-methotrexate (n=4) regimens. Similarly, no overall pattern of altered **MRP** mRNA expression was obsd. following chemotherapy in four patients from whom post chemotherapy biopsies were taken. This study provides a useful pilot investigation regarding the level, variation and pattern of **MRP** mRNA expression in TCC of the bladder, and suggests that further studies to establish the clin. significance of these variations are required.
ST multidrug **resistance** protein gene bladder carcinoma
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**MRP**; multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein (**MRP**); multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Neoplasm inhibitors
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)
IT Ribonucleic acids, messenger

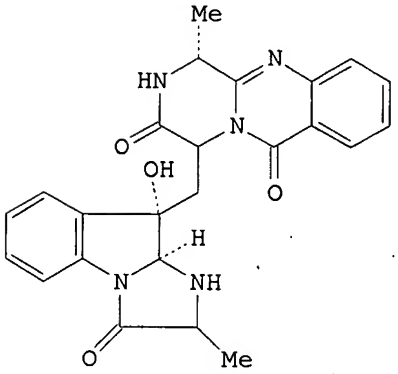
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Bladder
(neoplasm, transitional cell carcinoma, multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT 59-05-2, Methotrexate 865-21-4, Vinblastine **15663-27-1**, Cisplatin 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

=>

DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic leukemia cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure
IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)
IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT Neoplasm inhibitors
(leukemia, fumiquinazolines as, from Aspergillus fumigatus)
IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 111427-99-7, TR 3 111468-06-5 115589-18-9 118974-02-0, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=>

AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-resistance to diverse drugs is associated with primary cisplatin resistance in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The authors have previously obtained, by exposure to near continuous increasing concns. of cisplatin, a panel of human ovarian cancer cell lines that exhibit a wide range of primary resistance to the drug (9- to >400-fold). These cells had strikingly increased (4- to 50-fold) levels of glutathione (GSH) as compared with the drug-sensitive cells of origin (A. K. Godwin et al., Proc. Natl. Acad. Sci. USA, 89: 3070-3074, 1992). Using this panel of resistant cell lines, the authors evaluated cross-resistance to classical alkylating agents, natural product drugs, and irradn. Cross-resistance to carboplatin paralleled that of cisplatin, culminating is .apprx. 250-fold resistance. Similarly, melphalan cross-resistance continued to increase to >400-fold and again paralleled the primary cisplatin resistance. Cell lines with low to very high levels of resistance to cisplatin are 8-850-fold resistant to the epipodophyllotoxin deriv. etoposide. Cross-resistance is also obsd. for other natural product drugs, including Adriamycin (.apprx.80-fold), mitoxantrone (.apprx.440-fold), and taxol (.apprx.40-fold). Cross-resistance to irradn. is, however, modest (<2-fold). The cells with greatest primary resistance to cisplatin most commonly had the highest cross-resistance to the other drugs examd. The cross-resistance to the natural produce category drugs was found not to be mediated by the products of either the multidrug resistance 1 (MDR1) or multidrug resistance-assocd. protein (MRP) genes based on lack of coordinate increased expression or amplification of these genes as assessed by Northern and Southern blot analyses. Also, verapamil failed to markedly increase drug sensitivity. Although there was no indication that these natural product drug efflux pumps were operative, the authors obsd. decreased doxorubicin accumulation in these cell lines cross-resistant to natural products. Alternations in DNA topoisomerase II mRNA levels, which were obsd. in human tumor cell lines selected in vitro for resistance to etoposide or teniposide, were not detected. Only intracellular levels of GSH correlated with cross-resistance to these diverse anticancer agents and partial loss of resistance was assocd. with a marked decrease in glutathione levels. In the absence of alternative mechanisms, the authors speculate that the very broad clin. relevant cross-resistance seen in this model system may, at least in part, be the direct result of GSH-mediated drug inactivation or may be due to a combination of GSH conjugation to drug and conjugate efflux mediated by the putative ATP-dependent glutathione S-conjugate export pump.
ST cisplatin resistance neoplasm cross resistance glutathione
IT Neoplasm inhibitors
(cisplatin as, resistance to, cross-resistance to, in humans cells, GSH in mechanism of)
IT Radiation
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of)
IT Biological transport
(of doxorubicin, in neoplasm of humans resistance to cisplatin, cross-resistance to other agents in)
IT Drug resistance
(to cisplatin, cross-resistance to, in neoplasm of humans, GSH in

mechanism of)

IT 148-82-3, Melphalan 33069-62-4, Taxol 33419-42-0, VP-16 41575-94-4, Carboplatin 65271-80-9, Mitoxantrone
RL: PRP (Properties)
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of)

IT 23214-92-8, Adriamycin
RL: PRP (Properties)
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of, transport in relation to)

IT 70-18-8, Glutathione, biological studies
RL: BIOL (Biological study)
(in neoplasm of humans resistance to cisplatin, cross-resistance to other agents in)

IT 15663-27-1, Cisplatin
RL: BIOL (Biological study)
(resistance to, in neoplasm of humans, cross-resistance in, GSH in mechanism of)

=>

AN 1996:646439 CAPLUS
DN 125:266006
TI Use of protein kinase inhibitors in preventing multidrug **resistance** in cancer cells
IN Chaudhary, Preet; Shtil, Alexander A.; Roninson, Igor B.
PA Board of Trustees of the University of Illinois, USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K045-06
CC 1-6 (Pharmacology)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9625949	A1	19960829	WO 1996-US422	19960111
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5972598	A	19991026	US 1995-370724	19950110
	EP 804240	A1	19971105	EP 1996-903458	19960111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	JP 10512277	T2	19981124	JP 1996-522483	19960111
	US 6171786	B1	20010109	US 1996-659877	19960607
PRAI	US 1995-370724	A	19950110		
	US 1992-947659	B2	19920918		
	WO 1996-US422	W	19960111		

AB Methods are disclosed for preventing the emergence of multidrug **resistance** in tumor cells during cancer chemotherapy. In particular, protein kinase inhibitors are used to prevent the induction of expression of the multidrug **resistance** gene (MDR1) encoding P-glycoprotein by chemotherapeutic drugs. MDR1 expression, which results in tumor cell **resistance** to subsequent treatment with certain chemotherapeutic drugs, is shown herein to be induced in response to treatment with various cytotoxic agents, including such agents that are and are not substrates for P-glycoprotein-mediated efflux from cancer cells. Inhibitors of protein kinases, in particular protein kinase C, are shown to suppress this cellular response. In addn., such protein kinase inhibitors are also shown to inhibit expression of a gene encoding a multidrug **resistance**-assocd. protein (the **MRP** gene). Methods are disclosed for using such protein kinase inhibitors to both suppress induction of MDR1 gene expression by cytotoxic drugs and to inhibit expression of **MRP**. Also provided are methods for identifying protein kinase inhibitors that have either or both of these effects on MDR1 and **MRP** expression. Thus, the invention provides useful methods and reagents for preventing the emergence of multidrug **resistance** in tumor cells treated with cytotoxic and chemotherapeutic drugs in cancer patients undergoing chemotherapy, when such protein kinase inhibitors are administered prior to or simultaneous with cytotoxic drug treatment in such individuals.

ST protein kinase inhibitor multidrug **resistance** inhibition; MDR inhibition protein kinase inhibitor; cancer therapy protein kinase inhibitor MDR

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**MRP**; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Lymphocyte
(differentiation; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Cell differentiation
(lymphoid cell; protein kinase inhibitors for prevention of multidrug

resistance in cancer cells)

IT Proteins, specific or class, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(multidrug **resistance**-assocd.; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Biological transport
Cytotoxic agents
HeLa cell
Lymphoma
Neoplasm inhibitors
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Glycophosphoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(P-, gene mdr1, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(T-cell, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(acute monocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(acute myelogenous, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Uterus, neoplasm
(cervix, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Therapeutics
(chemo-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(chronic myelocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Skin, neoplasm
(epidermoid carcinoma, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Sarcoma
(fibro-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(hematol., protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(leukemia, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(mdr1, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Drug **resistance**
(multi-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Bladder
Mammary gland
(neoplasm, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Thymus gland
(neoplasm, thymoma, protein kinase inhibitors for prevention of

multidrug **resistance** in cancer cells)

IT Leukemia
(promyelocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(solid, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

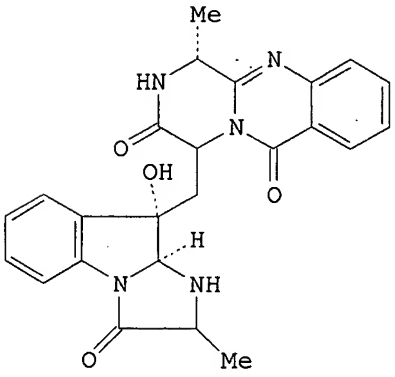
IT Light
(white, and calphostin C; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT 59-05-2, Methotrexate 127-07-1, Hydroxyurea 147-94-4, Cytosine arabinoside 305-03-3, Chlorambucil 446-72-0, Genistein 865-21-4, Vinblastine 1405-10-3, Neomycin sulfate 1405-10-3D, Neomycin sulfate, derivs. **15663-27-1**, Cisplatin 20830-81-3, Daunorubicin 25316-40-9, Adriamycin 34316-15-9, Chelerythrine 34316-15-9D, Chelerythrine, derivs. 62996-74-1, Staurosporine 62996-74-1D, Staurosporine, derivs. 63177-57-1, Methyl 2,5-dihydroxycinnamate 70563-58-5, Herbimycin A 84477-87-2, H7 84477-87-2D, H7, derivs. 88494-43-3 91742-10-8, HA1004 100827-28-9, Erbstatin 100827-28-9D, Erbstatin, derivs. 118409-58-8, Tyrphostin A25 118409-58-8D, Tyrphostin A25, derivs. 121263-19-2, Calphostin C 121263-19-2D, Calphostin C, derivs. 149092-34-2, Tyrphostin B46 149092-34-2D, Tyrphostin B46, derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT 9026-43-1, Protein kinase 141436-78-4, Protein kinase C
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

=>

L5 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic leukemia cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure
IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)
IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product

(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT **Neoplasm** inhibitors
(leukemia, fumiquinazolines as, from Aspergillus fumigatus)

IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 **111427-99-7**, TR 3 111468-06-5 115589-18-9 **118974-02-0**, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-resistance to diverse drugs is associated with primary cisplatin resistance in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The authors have previously obtained, by exposure to near continuous increasing concns. of cisplatin, a panel of human ovarian cancer cell lines that exhibit a wide range of primary resistance to the drug (9- to >400-fold). These cells had strikingly increased (4- to 50-fold) levels of glutathione (GSH) as compared with the drug-sensitive cells of origin (A. K. Godwin et al., Proc. Natl. Acad. Sci. USA, 89: 3070-3074, 1992). Using this panel of resistant cell lines, the authors evaluated cross-resistance to classical alkylating agents, natural product drugs, and irradn. Cross-resistance to carboplatin paralleled that of cisplatin, culminating is .apprx. 250-fold resistance. Similarly, melphalan cross-resistance continued to increase to >400-fold and again paralleled the primary cisplatin resistance. Cell lines with low to very high levels of resistance to cisplatin are 8-850-fold resistant to the epipodophyllotoxin deriv. etoposide. Cross-resistance is also obsd. for other natural product drugs, including Adriamycin (.apprx.80-fold), mitoxantrone (.apprx.440-fold), and taxol (.apprx.40-fold). Cross-resistance to irradn. is, however, modest (<2-fold). The cells with greatest primary resistance to cisplatin most commonly had the highest cross-resistance to the other drugs examd. The cross-resistance to the natural produce category drugs was found not to be mediated by the products of either the multidrug resistance 1 (MDR1) or multidrug resistance-assocd. protein (MRP) genes based on lack of coordinate increased expression or amplification of these genes as assessed by Northern and Southern blot analyses. Also, verapamil failed to markedly increase drug sensitivity. Although there was no indication that these natural product drug efflux pumps were operative, the authors obsd. decreased doxorubicin accumulation in these cell lines cross-resistant to natural products. Alternations in DNA topoisomerase II mRNA levels, which were obsd. in human tumor cell lines selected in vitro for resistance to etoposide or teniposide, were not detected. Only intracellular levels of GSH correlated with cross-resistance to these diverse anticancer agents and partial loss of resistance was assocd. with a marked decrease in glutathione levels. In the absence of alternative mechanisms, the authors speculate that the very broad clin. relevant cross-resistance seen in this model system may, at least in part, be the direct result of GSH-mediated drug inactivation or may be due to a combination of GSH conjugation to drug and conjugate efflux mediated by the putative ATP-dependent glutathione S-conjugate export pump.
ST cisplatin resistance neoplasm cross resistance glutathione
IT Neoplasm inhibitors
(cisplatin as, resistance to, cross-resistance to, in humans cells, GSH in mechanism of)
IT Radiation
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of)
IT Biological transport
(of doxorubicin, in neoplasm of humans resistance to cisplatin, cross-resistance to other agents in)
IT Drug resistance
(to cisplatin, cross-resistance to, in neoplasm of humans, GSH in

mechanism of)

IT 148-82-3, Melphalan 33069-62-4, Taxol 33419-42-0, VP-16 41575-94-4, Carboplatin 65271-80-9, Mitoxantrone
RL: PRP (Properties)
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of)

IT 23214-92-8, Adriamycin
RL: PRP (Properties)
(cross-resistance of, in neoplasm of humans, to cisplatin resistance, GSH in mechanism of, transport in relation to)

IT 70-18-8, Glutathione, biological studies
RL: BIOL (Biological study)
(in neoplasm of humans resistance to cisplatin, cross-resistance to other agents in)

IT 15663-27-1, Cisplatin
RL: BIOL (Biological study)
(resistance to, in neoplasm of humans, cross-resistance in, GSH in mechanism of)

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=> LOG Y

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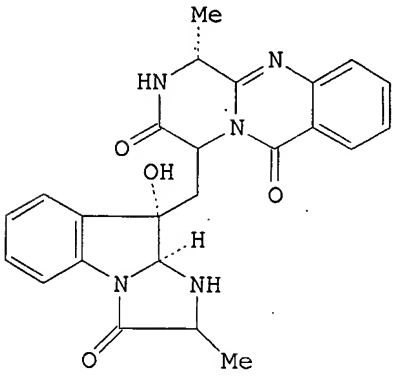
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.91	-4.56

STN INTERNATIONAL LOGOFF AT 16:14:51 ON 19 JUN 2003

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic **leukemia** cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure
IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)
IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)
IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT Neoplasm inhibitors
(**leukemia**, fumiquinazolines as, from Aspergillus fumigatus)
IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 **111427-99-7**, TR 3 111468-06-5 115589-18-9 **118974-02-0**, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=>

multidrug **resistance** in a human bladder cancer cell line)

=> d l12 129 all

L12 ANSWER 129 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-**resistance** to diverse drugs is associated with primary cisplatin **resistance** in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
CC 1-6 (Pharmacology)
AB The authors have previously obtained, by exposure to near continuous increasing concns. of cisplatin, a panel of human ovarian cancer cell lines that exhibit a wide range of primary **resistance** to the drug (9- to >400-fold). These cells had strikingly increased (4- to 50-fold) levels of glutathione (GSH) as compared with the drug-sensitive cells of origin (A. K. Godwin et al., Proc. Natl. Acad. Sci. USA, 89: 3070-3074, 1992). Using this panel of resistant cell lines, the authors evaluated cross-**resistance** to classical alkylating agents, natural product drugs, and irradn. Cross-**resistance** to carboplatin paralleled that of cisplatin, culminating is .apprx. 250-fold **resistance**. Similarly, melphalan cross-**resistance** continued to increase to >400-fold and again paralleled the primary cisplatin **resistance**. Cell lines with low to very high levels of **resistance** to cisplatin are 8-850-fold resistant to the epipodophyllotoxin deriv. etoposide. Cross-**resistance** is also obsd. for other natural product drugs, including Adriamycin (.apprx.80-fold), mitoxantrone (.apprx.440-fold), and taxol (.apprx.40-fold). Cross-**resistance** to irradn. is, however, modest (<2-fold). The cells with greatest primary **resistance** to cisplatin most commonly had the highest cross-**resistance** to the other drugs examd. The cross-**resistance** to the natural produce category drugs was found not to be mediated by the products of either the multidrug **resistance** 1 (MDR1) or multidrug **resistance** -assocd. protein (**MRP**) genes based on lack of coordinate increased expression or amplification of these genes as assessed by Northern and Southern blot analyses. Also, verapamil failed to markedly increase drug sensitivity. Although there was no indication that these natural product drug efflux pumps were operative, the authors obsd. decreased doxorubicin accumulation in these cell lines cross-resistant to natural products. Alternations in DNA topoisomerase II mRNA levels, which were obsd. in human tumor cell lines selected in vitro for **resistance** to etoposide or teniposide, were not detected. Only intracellular levels of GSH correlated with cross-**resistance** to these diverse anticancer agents and partial loss of **resistance** was assocd. with a marked decrease in glutathione levels. In the absence of alternative mechanisms, the authors speculate that the very broad clin. relevant cross-**resistance** seen in this model system may, at least in part, be the direct result of GSH-mediated drug inactivation or may be due to a combination of GSH conjugation to drug and conjugate efflux mediated by the putative ATP-dependent glutathione S-conjugate export pump.
ST cisplatin **resistance** neoplasm cross **resistance** glutathione
IT Neoplasm inhibitors

(cisplatin as, **resistance** to, cross-**resistance** to, in humans cells, GSH in mechanism of)

IT Radiation
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)

IT Biological transport
(of doxorubicin, in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT Drug **resistance**
(to cisplatin, cross-**resistance** to, in neoplasm of humans, GSH in mechanism of)

IT 148-82-3, Melphalan 33069-62-4, Taxol 33419-42-0, VP-16 41575-94-4, Carboplatin 65271-80-9, Mitoxantrone
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of)

IT 23214-92-8, Adriamycin
RL: PRP (Properties)
(cross-**resistance** of, in neoplasm of humans, to cisplatin **resistance**, GSH in mechanism of, transport in relation to)

IT 70-18-8, Glutathione, biological studies
RL: BIOL (Biological study)
(in neoplasm of humans **resistance** to cisplatin, cross-**resistance** to other agents in)

IT **15663-27-1**, Cisplatin
RL: BIOL (Biological study)
(**resistance** to, in neoplasm of humans, cross-**resistance** in, GSH in mechanism of)

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FILE 'CAPLUS' ENTERED AT 15:54:21 ON 19 JUN 2003

FILE 'REGISTRY' ENTERED AT 15:55:33 ON 19 JUN 2003
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E CISPLATEN
L2 16 S E4
L3 8 S FUMITREMORGIN C

FILE 'CAPLUS' ENTERED AT 15:57:27 ON 19 JUN 2003
L4 0 S L1
L5 14128 S L2
L6 53 S L3
L7 2 S L5 AND L6
E RESISTANCE
L8 901098 S E3
L9 15 S L8 AND L6
L10 2634 S L5 AND L8
L11 2146 S MRP
L12 129 S L10 AND L11

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---Logging off of STN---

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Executing the logoff script...

CC 1-6 (Pharmacology)

AB A human bladder cancer cell line resistant to adriamycin (ADM), T24/ADM9 has been established in vitro by exposing T24 parent cells to progressively higher concns. of the drug over a period of 12 mo. The T24/ADM9 cells were 9 times more resistant to ADM than the T24 parent, and showed various degrees of cross-**resistance** to an ADM deriv., vinca alkaloids and a DNA topoisomerase II (Topo II)-targeting agent, etoposide. No significant difference was obsd. in the cellular accumulation of ADM between the T24/ADM9 and T24 parent cells. A Northern blot anal. showed an overexpression of multidrug **resistance** -assocd. protein (**MRP**) mRNA, but no overexpression of multidrug **resistance**-1 (MDR1) mRNA was obsd. in the T24/ADM9 cells. A flow cytometric anal. showed that the MDR1 gene product, P-glycoprotein (Pgp), is not expressed on the T24/ADM9 cells. T24/ADM9 showed approx. the parental level of DNA Topo II catalytic activity. In Western blot and Northern blot analyses, however, the cellular level of DNA Topo II was apparently much lower in T24/ADM9 than in the T24 parent. Thus, these results suggest that a decreased cellular level of DNA Topo II and an overexpression of **MRP** gene may be responsible for the expression of an MDR phenotype in the T24/ADM9 cells and that such non-Pgp-mediated, atypical MDR may develop in bladder cancer treated with chemotherapy including ADM.

ST atypical multidrug resistant bladder cancer cell

IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(multidrug **resistance**; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)

IT Neoplasm inhibitors
(bladder carcinoma, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

IT Drug **resistance**
(multi-, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

IT Bladder
(neoplasm, carcinoma, inhibitors, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

IT 50-07-7, Mitomycin C 51-21-8, 5 Fluorouracil 57-22-7, Vincristine 865-21-4, Vinblastine **15663-27-1**, Cisplatin 33419-42-0, Etoposide 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cross-**resistance**; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

IT 142805-56-9, DNA topoisomerase II
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to decreased level of DNA Topo II)

IT 25316-40-9, Adriamycin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**resistance** to; non-P-glycoprotein-mediated atypical

IE, FI

	US 6313277	B1	20011106	US 1999-245808	19990205
	JP 2002502592	T2	20020129	JP 2000-530538	19990205
	US 2003036645	A1	20030220	US 2001-961086	20010921
PRAI	US 1998-73763P	P	19980205		
	US 1999-245808	A3	19990205		
	WO 1999-US2577	W	19990205		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1999:173577 CAPLUS
DN 131:13477
TI Multiple mechanisms confer drug **resistance** to mitoxantrone in the human 8226 myeloma cell line
AU Hazlehurst, Lori A.; Foley, Nils E.; Gleason-Guzman, Mary C.; Hacker, Miles P.; Cress, Anne E.; Greenberger, Lee W.; De Jong, Mariska C.; Dalton, William S.
CS Department of Biochemistry, Pharmacology, and Internal Medicine, H. Lee Moffitt Cancer Center, University of South Florida, Tampa, FL, 33612, USA
SO Cancer Research (1999), 59(5), 1021-1028
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1999:2922 CAPLUS
DN 130:177236
TI Reversal of a novel multidrug **resistance** mechanism in human colon carcinoma cells by fumitremorgin C
AU Rabindran, Sridhar K.; He, Haiyin; Singh, Maya; Brown, Eileen; Collins, Karen I.; Annable, Tami; Greenberger, Lee M.
CS Oncology and Immunology Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (1998), 58(24), 5850-5858
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 15:54:12 ON 19 JUN 2003)

FILE 'CAPLUS' ENTERED AT 15:54:21 ON 19 JUN 2003

FILE 'REGISTRY' ENTERED AT 15:55:33 ON 19 JUN 2003
L1 0 S CISPLATEN
E CISPLATEN
L2 16 S E4
L3 8 S FUMITREMORGIN C

FILE 'CAPLUS' ENTERED AT 15:57:27 ON 19 JUN 2003
L4 0 S L1
L5 14128 S L2
L6 53 S L3

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L7             2 S L5 AND L6
                 E RESISTANCE
L8        901098 S E3
L9            15 S L8 AND L6

=> s l5 and l8
L10         2634 L5 AND L8

=> s mrp
L11         2146 MRP

=> s l10 and l11
L12          129 L10 AND L11

=> d l12 100-129

L12  ANSWER 100 OF 129  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:561610  CAPLUS
DN   127:214731
TI   Molecular targeting of mitomycin C chemotherapy
AU   Nishiyama, Masahiko; Suzuki, Katsuyuki; Kumazaki, Tsutomu; Yamamoto,
     Wataru; Toge, Tetsuya; Okamura, Tatsunori; Kurisu, Kaoru
CS   Department of Biochemistry and Biophysics, Research Institute for
     Radiation Biology and Medicine, Hiroshima University, Hiroshima, 734,
     Japan
SO   International Journal of Cancer (1997), 72(4), 649-656
     CODEN: IJCNAW; ISSN: 0020-7136
PB   Wiley-Liss
DT   Journal
LA   English

L12  ANSWER 101 OF 129  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:560303  CAPLUS
DN   127:242890
TI   Analysis of expression of cMOAT (MRP2), MRP3, MRP4, and MRP5, homologs of
     the multidrug resistance-associated protein gene (MRP1), in
     human cancer cell lines
AU   Kool, Marcel; De Haas, Marcel; Scheffer, George L.; Scheper, Rik J.; Van
     Eijk, Michiel J. T.; Juijn, Jenneke A.; Baas, Frank; Borst, Piet
CS   Division of Molecular Biology, The Netherlands Cancer Institute,
     Amsterdam, 1066 CX, Neth.
SO   Cancer Research (1997), 57(16), 3537-3547
     CODEN: CNREA8; ISSN: 0008-5472
PB   American Association for Cancer Research
DT   Journal
LA   English

L12  ANSWER 102 OF 129  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:548817  CAPLUS
DN   127:214767
TI   A novel quinoline derivative, MS-209, overcomes drug resistance
     of human lung cancer cells expressing the multidrug resistance
     -associated protein (MRP) gene
AU   Narasaki, Fumihiko; Oka, Mikio; Fukuda, Minoru; Nakano, Reiji; Ikeda,
     Koki; Takatani, Hiroshi; Terashi, Kenji; Soda, Hiroshi; Yano, Osamu;
     Nakamura, Tsuyoshi; Doyle, L. Austin; Tsuruo, Takashi; Kohno, Shigeru
CS   School Medicine, Nagasaki University, Nagasaki, 852, Japan
SO   Cancer Chemotherapy and Pharmacology (1997), 40(5), 425-432
     CODEN: CCPHDZ; ISSN: 0344-5704
PB   Springer
DT   Journal
LA   English
```

L12 ANSWER 103 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:432371 CAPLUS
DN 127:104013
TI Isolation from a human MDR lung cell line of multiple clonal subpopulations which exhibit significantly different drug **resistance**
AU Heenan, Mary; O'driscoll, Lorraine; Cleary, Irene; Connolly, Lisa; Clynes, Martin
CS National Cell and Tissue Culture Centre/BioResearch Ireland, Dublin City University, Dublin, 9, Ire.
SO International Journal of Cancer (1997), 71(5), 907-915
CODEN: IJCNAW; ISSN: 0020-7136
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 104 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:343754 CAPLUS
DN 127:44550
TI Lack of a point mutation of human DNA topoisomerase II in multidrug-resistant anaplastic thyroid carcinoma cell lines
AU Satake, Shoji; Sugawara, Isamu; Watanabe, Masatoshi; Takami, Hiroshi
CS Dep. Surgery, Teikyo Univ. Sch. Med., Tokyo, 171, Japan
SO Cancer Letters (Shannon, Ireland) (1997), 116(1), 33-39
CODEN: CALEDQ; ISSN: 0304-3835
PB Elsevier
DT Journal
LA English

L12 ANSWER 105 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:316426 CAPLUS
DN 126:338501
TI Intermittent exposure to doxorubicin in vitro selects for multifactorial non-P-glycoprotein-associated multidrug **resistance** in RPMI 8226 human myeloma cells
AU Wyler, Beat; Shao, Ying; Schneider, Erasmus; Cianfriglia, Maurizio; Scheper, Rik J.; Frey, Beat M.; Gieseler, Frank; Schmid, Luzius; Twentyman, Peter R.; Lehnert, Manfred
CS Cancer Research Laboratory, Department C of Internal Medicine, Kantonsspital St Gallen, St Gallen, 9007, Switz.
SO British Journal of Haematology (1997), 97(1), 65-75
CODEN: BJHEAL; ISSN: 0007-1048
PB Blackwell
DT Journal
LA English

L12 ANSWER 106 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:266139 CAPLUS
DN 126:311883
TI Possible role of the multidrug **resistance**-associated protein (**MRP**) in chemoresistance of human melanoma cells
AU Berger, Walter; Hauptmann, Erich; Elbling, Leonilla; Vetterlein, Monika; Kokoschka, Eva M.; Micksche, Michael
CS Dep. Applied & Experimental Oncology, Inst. Tumor Biology/Cancer Res., Vienna Univ., Vienna, Austria
SO International Journal of Cancer (1997), 71(1), 108-115
CODEN: IJCNAW; ISSN: 0020-7136
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 107 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:242551 CAPLUS
DN 126:311861
TI Carbamoylation of glutathione reductase by N,N-bis(2-chloroethyl)-N-nitrosourea associated with inhibition of multidrug **resistance** protein (**MRP**) function
AU Vanhoefer, Udo; Yin, Ming-Biao; Harstrick, Andreas; Seeber, Siegfried; Rustum, Youcef M.
CS DEPARTMENT OF EXPERIMENTAL THERAPEUTICS, GRACE CANCER DRUG CENTER, ROSWELL PARK CANCER INSTITUTE, BUFFALO, NY, 14263, USA
SO Biochemical Pharmacology (1997), 53(6), 801-809
CODEN: BCPCA6; ISSN: 0006-2952
PB Elsevier
DT Journal
LA English

L12 ANSWER 108 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:233235 CAPLUS
DN 126:271951
TI In vitro cross-**resistance** and collateral sensitivity in seven resistant small-cell lung cancer cell lines: preclinical identification of suitable drug partners to taxotere, taxol, topotecan and gemcitabine
AU Jensen, P. B.; Holm, B.; Sorensen, M.; Christensen, I. J.; Sehested, M.
CS Laboratory of Experimental Medical Oncology, The Finsen Center, Rigshospitalet, Copenhagen, DK-2100, Den.
SO British Journal of Cancer (1997), 75(6), 869-877
CODEN: BJCAAI; ISSN: 0007-0920
PB Churchill Livingstone
DT Journal
LA English

L12 ANSWER 109 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:154474 CAPLUS
DN 126:207244
TI In vitro evaluation of new anticancer drugs, exemplified by vinorelbine, using the fluorometric microculture cytotoxicity assay on human tumor cell lines and patient biopsy cells
AU Fridborg, Helena; Nygren, Peter; Dhar, Sumeer; Csoka, Katalin; Kristensen, Joergen; Larsson, Rolf
CS Division of Clinical Pharmacology, University Hospital, Uppsala University, Uppsala, S-751 85, Swed.
SO Journal of Experimental Therapeutics & Oncology (1996), 1(5), 286-295
CODEN: JETOFX; ISSN: 1359-4117
PB Rapid Science Publishers
DT Journal
LA English

L12 ANSWER 110 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:92153 CAPLUS
DN 126:112882
TI Rapid recovery of a functional MDR phenotype caused by **MRP** after a transient exposure to MDR drugs in a revertant human lung cancer cell line
AU Manzano, R. Gonzalez; Versanvoort, C.; Wright, K.; Twentyman, P.R.
CS Clinical Oncology and Radiotherapeutics Unit Medical Research Council Centre, Cambridge, 2QH, UK
SO European Journal of Cancer, Part A (1996), 32A(12), 2136-2141
CODEN: EJCTEA
PB Elsevier
DT Journal
LA English

L12 ANSWER 111 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1997:24455 CAPLUS
DN 126:112834
TI The multidrug **resistance**-associated protein gene confers drug **resistance** in human gastric and colon cancers
AU Tomonaga, Michio; Oka, Mikio; Narasaki, Fumihiko; Fukuda, Minoru; Nakano, Reiji; Takatani, Hiroshi; Ikeda, Koki; Terashi, Kenji; Matsuo, Isao; et al.
CS The Second Department of Internal Medicine, Nagasaki University School of Medicine, Nagasaki, 852, Japan
SO Japanese Journal of Cancer Research (1996), 87(12), 1263-1270
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English

L12 ANSWER 112 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:742682 CAPLUS
DN 126:14458
TI Expression of multidrug-**resistance**-associated protein (**MRP**) and chemosensitivity in human gastric cancer
AU Endo, Kazuya; Maehara, Yoshihiko; Kusumoto, Tetsuya; Ichiyoshi, Yuji; Kuwano, Michihiko; Sugimachi, Keizo
CS Cancer Center Kyushu, University Hospital, Fukuoka, Japan
SO International Journal of Cancer (1996), 68(3), 372-377
CODEN: IJCNAW; ISSN: 0020-7136
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 113 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:646439 CAPLUS
DN 125:266006
TI Use of protein kinase inhibitors in preventing multidrug **resistance** in cancer cells
IN Chaudhary, Preet; Shtil, Alexander A.; Roninson, Igor B.
PA Board of Trustees of the University of Illinois, USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9625949	A1	19960829	WO 1996-US422	19960111
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5972598	A	19991026	US 1995-370724	19950110
	EP 804240	A1	19971105	EP 1996-903458	19960111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	JP 10512277	T2	19981124	JP 1996-522483	19960111
	US 6171786	B1	20010109	US 1996-659877	19960607
PRAI	US 1995-370724	A	19950110		
	US 1992-947659	B2	19920918		
	WO 1996-US422	W	19960111		

L12 ANSWER 114 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:637176 CAPLUS
DN 125:266007
TI Human vault ribonucleoprotein major protein cDNA sequence and vault-related multidrug resistant cancer cell identification using nucleic acid or antibody

IN Scheper, Riekeld Johannes; Scheffer, George Lodewijk
PA Akzo Nobel N.V., Neth.
SO PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9627611	A1	19960912	WO 1996-EP1013	19960306
	W: AU, CA, JP, KR, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9651046	A1	19960923	AU 1996-51046	19960306
PRAI	EP 1995-200543		19950306		
	WO 1996-EP1013		19960306		

L12 ANSWER 115 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:546481 CAPLUS
DN 125:218034
TI Characterization of the ATP-dependent LTC4 transporter in cisplatin-resistant human KB cells
AU Chuman, Yutaka; Chen, Zhe-Sheng; Sumizawa, Tomoyuki; Furukawa, Tatsuhiko; Haraguchi, Misako; Takebayashi, Yuji; Niwa, Kiyoshi; Yamada, Kazutaka; Aikou, Takashi; Akiyama, Shin-ichi
CS Inst. Cancer Res., Kagoshima Univ., Kagoshima, Japan
SO Biochemical and Biophysical Research Communications (1996), 226(1), 158-165
CODEN: BBRCA9; ISSN: 0006-291X
PB Academic
DT Journal
LA English

L12 ANSWER 116 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:419834 CAPLUS
DN 125:111505
TI **MRP** is frequently expressed in human lung-cancer cell lines, in non-small-cell lung cancer and in normal lung
AU Giaccone, Giuseppe; Van Ark-Otte, Jannette; Rubio, Gonzalo J.; Gazdar, Adi F.; Broxterman, Henk J.; Dingemans, Anne-Marie C.; Flens, Marcel J.; Scheper, Rik J.; Pinedo, Herbert M.
CS University Hospital, Vrije Universiteit, Amsterdam, 1007 MB, Neth.
SO International Journal of Cancer (1996), 66(6), 760-767
CODEN: IJCNAW; ISSN: 0020-7136
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 117 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:381566 CAPLUS
DN 125:51101
TI Coordinated induction of **MRP**/GS-X pump and .gamma.-glutamylcysteine synthetase by heavy metals in human leukemia cells
AU Ishikawa, Toshihisa; Bao, Jia-Ju; Yamane, Yoshiaki; Akimaru, Kunihiro; Frindrich, Karl; Wright, Christine D.; Kuo, M. Tien
CS Section Molecular Therapeutics, University Texas M. D. Anderson Cancer Center, Houston, TX, 77030, USA
SO Journal of Biological Chemistry (1996), 271(25), 14981-14988
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English

L12 ANSWER 118 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:305769 CAPLUS
DN 125:586
TI Mechanisms of **resistance** of human small cell lung cancer lines selected in VP-16 and cisplatin
AU Jain, Nidhi; Lam, Yuk-Miu; Pym, John; Campling, Barbara G.
CS Cancer Research Laboratories, Queen's University, Kingston, Can.
SO Cancer (New York) (1996), 77(9), 1797-1808
CODEN: CANCAR; ISSN: 0008-543X
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 119 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:261889 CAPLUS
DN 124:339679
TI Multidrug **resistance**-associated protein expression in clinical gastric carcinoma
AU Endo, Kazuya; Maehara, Yoshihiko; Ichiyoshi, Yuji; Kusumoto, Tetsuya; Sakaguchi, Yoshihisa; Ohno, Shinji; Sugimachi, Keizo
CS Cancer Center, Kyushu University Hospital, Fukuoka, 812, Japan
SO Cancer (New York) (1996), 77(8, Suppl.), 1681-7
CODEN: CANCAR; ISSN: 0008-543X
PB Wiley-Liss
DT Journal
LA English

L12 ANSWER 120 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:228317 CAPLUS
DN 124:285652
TI Alterations in expression of the multidrug **resistance**-associated protein (**MRP**) gene in high-grade transitional cell carcinoma of the bladder
AU Clifford, S. C.; Neal, D. E.; Lunec, J.
CS Medical School, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, NE2 4HH, UK
SO British Journal of Cancer (1996), 73(5), 659-66
CODEN: BJCAAI; ISSN: 0007-0920
PB Stockton
DT Journal
LA English

L12 ANSWER 121 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:96400 CAPLUS
DN 124:193617
TI Non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line
AU Naito, Seiji; Hasegawa, Shuji; Yokomizo, Akira; Koga, Hirofumi; Kotoh, Shuji; Kuwano, Michihiko; Kumazawa, Joichi
CS Fac. Medicine, Kyushu Univ., Fukuoka, 812, Japan
SO Japanese Journal of Cancer Research (1995), 86(11), 1112-18
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English

L12 ANSWER 122 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:51800 CAPLUS
DN 124:135026
TI Establishment of a docetaxel-resistant human non-small cell lung cancer cell line
AU Funayama, Y.; Ohta, S.; Kubota, N.; Nishio, K.; Arioka, H.; Ogasawara, H.;

Ohira, T.; Kanazawa, F.; Hasegawa, S.; Saijo, N.
CS Pharmacol. Div., Natl. Cancer Center Research Inst., Tokyo, 104, Japan
SO Cellular Pharmacology (1995), 2(6), 303-9
CODEN: CEPHEG; ISSN: 1351-3214
PB Stockton
DT Journal
LA English

L12 ANSWER 123 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1995:942909 CAPLUS
DN 124:402
TI Expression of multidrug **resistance**-associated protein in NIH/3T3 cells confers multidrug **resistance** associated with increased drug efflux and altered intracellular drug distribution
AU Breuninger, Lisa M.; Paul, Saptarshi; Gaughan, Kathleen; Miki, Toru; Chan, Andrew; Aaronson, Stuart A.; Kruh, Gary D.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1995), 55(22), 5342-7
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English

L12 ANSWER 124 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1995:724074 CAPLUS
DN 123:160208
TI **MRP** gene overexpression in a human doxorubicin-resistant SCLC cell line: alterations in cellular pharmacokinetics and in pattern of cross-**resistance**
AU Binaschi, Monica; Supino, Rosanna; Gambetta, Romolo A.; Giaccone, Giuseppe; Prosperi, Ennio; Capranico, Giovanni; Cataldo, Ignazio; Zunino, Franco
CS Division of Experimental Oncology B, Istituto Nazionale Tumori, Milan, 20133, Italy
SO International Journal of Cancer (1995), 62(1), 84-9
CODEN: IJCNAW; ISSN: 0020-7136
DT Journal
LA English

L12 ANSWER 125 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1995:670498 CAPLUS
DN 123:102201
TI Drug **resistance** mechanisms and **MRP** expression in response to epirubicin treatment in a human leukemia cell line
AU Davey, Ross A.; Longhurst, Terry J.; Davey, Mary W.; Belov, Larissa; Harvie, Rozelle M.; Hancox, Djemilla; Wheeler, Helen
CS Department Clinical Oncology, Royal North Shore Hospital, St. Leonards, 2065, Australia
SO Leukemia Research (1995), 19(4), 275-82
CODEN: LEREDD; ISSN: 0145-2126
PB Elsevier
DT Journal
LA English

L12 ANSWER 126 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1995:535813 CAPLUS
DN 122:305991
TI The role of methoxymorpholino anthracycline and cyanomorpholino anthracycline in a sensitive small-cell lung-cancer cell line and its multidrug-resistant but P-glycoprotein-negative and cisplatin-resistant counterparts
AU Graaf, Winette T. A. van der; Mulder, Nanno H.; Meijer, Coby; Vries,

Elisabeth G. E. de
CS Department Internal Medicine, University Hospital, Groningen, 9713 EZ, Neth.
SO Cancer Chemotherapy and Pharmacology (1995), 35(4), 345-8
CODEN: CCPHDZ; ISSN: 0344-5704
DT Journal
LA English

L12 ANSWER 127 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1995:209914 CAPLUS
DN 122:527
TI Pharmacological characterization of multidrug resistant **MRP** -transfected human tumor cells
AU Cole, Susan P. C.; Sparks, Kathryn E.; Fraser, Karen; Loe, Douglas W.; Grant, Caroline E.; Wilson, Gerald M.; Deeley, Roger G.
CS Cancer Res. Lab., Queen's Univ., Kingston, ON, K7L 3N6, Can.
SO Cancer Research (1994), 54(22), 5902-10
CODEN: CNREA8; ISSN: 0008-5472
PB American Association for Cancer Research
DT Journal
LA English

L12 ANSWER 128 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1994:595251 CAPLUS
DN 121:195251
TI Prevalence of multidrug **resistance** related to activation of the mdr1 gene in human sarcoma mutants derived by single-step doxorubicin selection
AU Chen, Gang; Jaffrezou, Jean Pierre; Fleming, William H.; Duran, George E.; Sikic, Branimir I.
CS Sch. Med., Stanford Univ., Stanford, CA, 94305-5306, USA
SO Cancer Research (1994), 54(18), 4980-7
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English

L12 ANSWER 129 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1994:94935 CAPLUS
DN 120:94935
TI Cross-**resistance** to diverse drugs is associated with primary cisplatin **resistance** in ovarian cancer cell lines
AU Hamaguchi, Kinya; Godwin, Andrew K.; Yakushiji, Michiaki; O'Dwyer, Peter J.; Ozols, Robert F.; Hamilton, Thomas C.
CS Dep. Med. Oncol., Fox Chase Cancer Cent., Philadelphia, PA, 19111, USA
SO Cancer Research (1993), 53(21), 5225-32
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English

=> d l12 113 all

L12 ANSWER 113 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:646439 CAPLUS
DN 125:266006
TI Use of protein kinase inhibitors in preventing multidrug **resistance** in cancer cells
IN Chaudhary, Preet; Shtil, Alexander A.; Roninson, Igor B.
PA Board of Trustees of the University of Illinois, USA
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent

LA English
IC ICM A61K045-06
CC 1-6 (Pharmacology)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9625949	A1	19960829	WO 1996-US422	19960111
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5972598	A	19991026	US 1995-370724	19950110
	EP 804240	A1	19971105	EP 1996-903458	19960111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	JP 10512277	T2	19981124	JP 1996-522483	19960111
	US 6171786	B1	20010109	US 1996-659877	19960607
PRAI	US 1995-370724	A	19950110		
	US 1992-947659	B2	19920918		
	WO 1996-US422	W	19960111		

AB Methods are disclosed for preventing the emergence of multidrug **resistance** in tumor cells during cancer chemotherapy. In particular, protein kinase inhibitors are used to prevent the induction of expression of the multidrug **resistance** gene (MDR1) encoding P-glycoprotein by chemotherapeutic drugs. MDR1 expression, which results in tumor cell **resistance** to subsequent treatment with certain chemotherapeutic drugs, is shown herein to be induced in response to treatment with various cytotoxic agents, including such agents that are and are not substrates for P-glycoprotein-mediated efflux from cancer cells. Inhibitors of protein kinases, in particular protein kinase C, are shown to suppress this cellular response. In addn., such protein kinase inhibitors are also shown to inhibit expression of a gene encoding a multidrug **resistance**-assocd. protein (the **MRP** gene). Methods are disclosed for using such protein kinase inhibitors to both suppress induction of MDR1 gene expression by cytotoxic drugs and to inhibit expression of **MRP**. Also provided are methods for identifying protein kinase inhibitors that have either or both of these effects on MDR1 and **MRP** expression. Thus, the invention provides useful methods and reagents for preventing the emergence of multidrug **resistance** in tumor cells treated with cytotoxic and chemotherapeutic drugs in cancer patients undergoing chemotherapy, when such protein kinase inhibitors are administered prior to or simultaneous with cytotoxic drug treatment in such individuals.

ST protein kinase inhibitor multidrug **resistance** inhibition; MDR inhibition protein kinase inhibitor; cancer therapy protein kinase inhibitor MDR

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**MRP**; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Lymphocyte
(differentiation; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Cell differentiation
(lymphoid cell; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Proteins, specific or class, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(multidrug **resistance**-assocd.; protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Biological transport
Cytotoxic agents
HeLa cell

Lymphoma
Neoplasm inhibitors
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Glycophosphoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(P-, gene mdr1, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(T-cell, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(acute monocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(acute myelogenous, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Uterus, neoplasm
(cervix, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Therapeutics
(chemo-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(chronic myelocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Skin, neoplasm
(epidermoid carcinoma, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Sarcoma
(fibro-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(hematol., protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(leukemia, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(mdr1, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Drug **resistance**
(multi-, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Bladder
Mammary gland
(neoplasm, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Thymus gland
(neoplasm, thymoma, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Leukemia
(promyelocytic, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Neoplasm inhibitors
(solid, protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT Light
(white, and calphostin C; protein kinase inhibitors for prevention of

multidrug **resistance** in cancer cells)

IT 59-05-2, Methotrexate 127-07-1, Hydroxyurea 147-94-4, Cytosine arabinoside 305-03-3, Chlorambucil 446-72-0, Genistein 865-21-4, Vinblastine 1405-10-3, Neomycin sulfate 1405-10-3D, Neomycin sulfate, derivs. **15663-27-1**, Cisplatin 20830-81-3, Daunorubicin 25316-40-9, Adriamycin 34316-15-9, Chelerythrine 34316-15-9D, Chelerythrine, derivs. 62996-74-1, Staurosporine 62996-74-1D, Staurosporine, derivs. 63177-57-1, Methyl 2,5-dihydroxycinnamate 70563-58-5, Herbimycin A 84477-87-2, H7 84477-87-2D, H7, derivs. 88494-43-3 91742-10-8, HA1004 100827-28-9, Erbstatin 100827-28-9D, Erbstatin, derivs. 118409-58-8, Tyrphostin A25 118409-58-8D, Tyrphostin A25, derivs. 121263-19-2, Calphostin C 121263-19-2D, Calphostin C, derivs. 149092-34-2, Tyrphostin B46 149092-34-2D, Tyrphostin B46, derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

IT 9026-43-1, Protein kinase 141436-78-4, Protein kinase C
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(protein kinase inhibitors for prevention of multidrug **resistance** in cancer cells)

=> d l12 120 all

L12 ANSWER 120 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:228317 CAPLUS
DN 124:285652
TI Alterations in expression of the multidrug **resistance**-associated protein (**MRP**) gene in high-grade transitional cell carcinoma of the bladder
AU Clifford, S. C.; Neal, D. E.; Lunec, J.
CS Medical School, University of Newcastle-upon-Tyne, Newcastle-upon-Tyne, NE2 4HH, UK
SO British Journal of Cancer (1996), 73(5), 659-66
CODEN: BJCAAI; ISSN: 0007-0920
PB Stockton
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 1
AB Expression of the **MRP** gene has been demonstrated in vitro to be a causal factor in non-P-glycoprotein-mediated multidrug **resistance**, and is implicated in **resistance** to a no. of the chemotherapeutic agents currently used in the treatment of high-grade transitional cell carcinoma (TCC) of the bladder (doxorubicin, epirubicin and vinblastine). Using a sensitive RT-PCR-based technique, we have quantified **MRP** mRNA levels in a series of untreated TCC (n=24), normal bladder (n=5) and control tissue and cell line samples. **MRP** mRNA was widely expressed and detectable in all samples analyzed, with considerable (up to 190-fold) variation obsd. between individual tumor samples. **MRP** mRNA levels found in TCC samples were lower than those detd. for normal peripheral mononucleocyte (2.3-fold) and testis (4.1-fold) samples, previously reported to be high-expressing tissues, and varied over a similar range to that obsd. in normal bladder samples. Results indicate that **MRP** mRNA levels in a greater proportion of high-grade (G3) bladder tumors (55%, 6/11) are significantly reduced (P=0.018) compared with low- and moderate-grade (G1/2) bladder tumors (8%, 1/13), and suggest that **MRP** mRNA

levels frequently become reduced as a consequence of tumor progression to advanced, poorly differentiated disease. No correlation was apparent between **MRP** and MDR1 mRNA levels, thus providing no evidence to suggest common regulation of the two genes. In a limited no. of patients, no evidence was found to support a role for **MRP** mRNA levels as a determinant of response to chemotherapy in patients being uniformly treated with either cisplatin-methotrexate-vinblastine (n=6) or epirubicin-cisplatin-methotrexate (n=4) regimens. Similarly, no overall pattern of altered **MRP** mRNA expression was obsd. following chemotherapy in four patients from whom post chemotherapy biopsies were taken. This study provides a useful pilot investigation regarding the level, variation and pattern of **MRP** mRNA expression in TCC of the bladder, and suggests that further studies to establish the clin. significance of these variations are required.

ST multidrug **resistance** protein gene bladder carcinoma

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**MRP**; multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Proteins, specific or class
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein (**MRP**); multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Neoplasm inhibitors
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Ribonucleic acids, messenger
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT Bladder
(neoplasm, transitional cell carcinoma, multidrug **resistance** -assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

IT 59-05-2, Methotrexate 865-21-4, Vinblastine **15663-27-1**, Cisplatin 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(multidrug **resistance**-assocd. protein gene expression in human high-grade transitional cell carcinoma of the bladder)

=> d l12 121 all

L12 ANSWER 121 OF 129 CAPLUS COPYRIGHT 2003 ACS
AN 1996:96400 CAPLUS
DN 124:193617
TI Non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line
AU Naito, Seiji; Hasegawa, Shuji; Yokomizo, Akira; Koga, Hirofumi; Kotoh, Shuji; Kuwano, Michihiko; Kumazawa, Joichi
CS Fac. Medicine, Kyushu Univ., Fukuoka, 812, Japan
SO Japanese Journal of Cancer Research (1995), 86(11), 1112-18
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English

=> s l3
L6 53 L3

=> s l5 and l6
L7 2 L5 AND L6

=> d l7 1-2 all

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2003:3461 CAPLUS
TI Breast cancer resistance protein (BCRP/ABCG2) induces cellular resistance to HIV-1 nucleoside reverse transcriptase inhibitors
AU Wang, Xin; Furukawa, Tatsuhiko; Nitanda, Takao; Okamoto, Mika; Sugimoto, Yoshikazu; Akiyama, Shin-Ichi; Baba, Masanori
CS Division of Human Retroviruses, Center for Chronic Viral Diseases, Faculty of Medicine, Kagoshima University, Kagoshima, Japan
SO Molecular Pharmacology (2003), 63(1), 65-72
CODEN: MOPMA3; ISSN: 0026-895X
PB American Society for Pharmacology and Experimental Therapeutics
DT Journal
LA English
CC 1-5 (Pharmacology)
AB Breast cancer resistance protein (BCRP/ABCG2) is a novel member of ATP-binding cassette transporters, which induce multidrug resistance in cancer cells. We found that a high level of BCRP expression in CD4+ T cells conferred cellular resistance to human immunodeficiency virus type-1 (HIV-1) nucleoside reverse transcriptase inhibitors. The cell line MT-4/DOX500 was established through the long-term culture of MT-4 cells in the presence of doxorubicin (DOX) and had reduced sensitivity to not only DOX but also zidovudine (AZT). MT-4/DOX500 cells showed reduced intracellular accumulation and retention of DOX and increased ATP-dependent rhodamine 123 efflux. The cells were also resistant to several anticancer agents such as mitoxantrone, 7-ethyl-10-[4-(1-piperidino)-1-piperidino]carbonyloxycamptothecin, and 7-ethyl-10-hydroxycamptothecin. AZT was 7.5-fold less inhibitory to HIV-1 replication in MT-4/DOX500 cells than in MT-4 cells. Furthermore, the anti-HIV-1 activity of lamivudine was severely impaired in MT-4/DOX500 cells. In contrast, the antiviral activity of non-nucleoside reverse transcriptase inhibitors and protease inhibitors was not affected in the cells. MT-4/DOX500 cells expressed glycosylated BCRP but not P-glycoprotein (ABCB1), multidrug resistance protein 1, 2, or 4 (ABCC1, -2, or -4), or lung resistance-related protein. In addn., the BCRP-specific inhibitor fumitremorgin C completely abolished the resistance of MT-4/DOX500 cells to AZT as well as to DOX. An anal. for intracellular metab. of AZT suggests that the resistance is attributed to the increase of ATP-dependent efflux of its metabolites, presumably AZT 5'-monophosphate, in MT-4/DOX500 cells.
ST lamivudine zidovudine antiviral BCRP ABCG2 protein anticancer doxorubicin resistance
IT Multidrug resistance proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(BCRP (breast cancer resistance protein); breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Multidrug resistance proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MRP1; breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Multidrug resistance proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MRP2; breast cancer resistance protein induces cellular resistance to

HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Multidrug resistance proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MRP4; breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Drug resistance
(antitumor; breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Glycosylation
(biol.; breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Antitumor agents
Antiviral agents
Cytotoxic agents
Human
Multidrug resistance
(breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT Antitumor agents
(resistance to; breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT **118974-02-0**, Fumitremorgin C
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT 23214-92-8, Doxorubicin 29706-85-2, AZT 5'-monophosphate 30516-87-1, Zidovudine 92586-35-1, 3'-Azido-3'-deoxythymidine triphosphate 106060-89-3, 3'-Azido-3'-deoxythymidine diphosphate
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); PKT (Pharmacokinetics); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
IT 50-76-0, Actinomycin D 57-22-7, Vincristine 3056-17-5, Stavudine **15663-27-1**, Cisplatin 33069-62-4, Paclitaxel 33419-42-0, Etoposide 62669-70-9, rhodamine 123 65271-80-9, Mitoxantrone 69655-05-6, Didanosine 100286-90-6, CPT-11 129618-40-2, Nevirapine 134678-17-4, Lamivudine 149950-60-7, Emivirine 150378-17-9, Indinavir 159989-64-7, Nelfinavir
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(breast cancer resistance protein induces cellular resistance to HIV-1 NRTIs in DOX-resistant CD4+ T-cell lines)
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2000:72225 CAPLUS
DN 132:216690
TI Fumitremorgin C reverses multidrug resistance in cells transfected with the breast cancer resistance protein
AU Rabindran, Sridhar K.; Ross, Douglas D.; Doyle, L. Austin; Yang, Weidong; Greenberger, Lee M.
CS Oncology and Immunoinflammatory Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (2000), 60(1), 47-50
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
CC 1-6 (Pharmacology)
AB Fumitremorgin C (FTC) is a potent and specific chemosensitizing agent in cell lines selected for resistance to mitoxantrone that do not overexpress P-glycoprotein or multidrug resistance protein. The gene encoding a novel transporter, the breast cancer resistance protein (BCRP), was recently overexpressed in a mitoxantrone-selected human colon cell line, S1-M1-3.2, which was used to identify FTC. Because the drug-selected cell line may contain multiple alterations contributing to the multidrug resistance phenotype, the authors examd. the effect of FTC on MCF-7 cells transfected with the BCRP gene. The authors report that FTC almost completely reverses resistance mediated by BCRP in vitro and is a pharmacol. probe for the expression and mol. action of this transporter.
ST fumitremorgin C multidrug resistance reversal; breast cancer resistance protein fumitremorgin C
IT Drug resistance
(antitumor; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)
IT Multidrug resistance proteins
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(breast cancer resistance protein (BCRP); fumitremorgin C reverses

multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT Biological transport
(drug; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT Multidrug resistance
(fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT Antitumor agents
(mammary gland; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT Mammary gland
Mammary gland
(neoplasm, inhibitors; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT Antitumor agents
(resistance to; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT 20830-81-3, Daunorubicin 23214-92-8, Doxorubicin
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT 57-22-7, Vincristine **15663-27-1**, cis-Platinum 33069-62-4, Paclitaxel 65271-80-9, Mitoxantrone **118974-02-0**, Fumitremorgin C 123948-87-8, Topotecan
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

IT 225918-89-8, BBR 3390
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(intracellular accumulation; fumitremorgin C reverses multidrug resistance in cells transfected with breast cancer resistance protein in relation to effect on drug transport)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(FILE 'HOME' ENTERED AT 15:54:12 ON 19 JUN 2003)

FILE 'CAPLUS' ENTERED AT 15:54:21 ON 19 JUN 2003

FILE 'REGISTRY' ENTERED AT 15:55:33 ON 19 JUN 2003
L1 0 S CISPLATEN
E CISPLATEN
L2 16 S E4
L3 8 S FUMITREMORGIN C

FILE 'CAPLUS' ENTERED AT 15:57:27 ON 19 JUN 2003
L4 0 S L1
L5 14128 S L2
L6 53 S L3
L7 2 S L5 AND L6

=> e resistance
E1 11 RESISTANCCE/BI
E2 1 RESISTANCD/BI
E3 901098 --> RESISTANCE/BI
E4 5 RESISTANCE1/BI
E5 2 RESISTANCE3/BI
E6 1 RESISTANCE3412/BI
E7 1 RESISTANCEA/BI
E8 1 RESISTANCEACE/BI
E9 1 RESISTANCEAFFECTED/BI
E10 1 RESISTANCEALSO/BI
E11 1 RESISTANCEAMONG/BI
E12 1 RESISTANCEAMPC/BI

=> s e3
L8 901098 RESISTANCE/BI

=> s l8 and l6
L9 15 L8 AND L6

=> d l9 1-15

L9 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2003:335139 CAPLUS
DN 138:332878
TI Application of a human multidrug transporter (abcg2) variant as selectable marker in gene transfer to progenitor cells and in gene therapy
IN Nemet, Katalin; Varadi, Gyorgy; Cervenak, Judit; Ujhelly, Olga; Sarkadi, Balazs; Varadi, Andras; Oezvegy, Csilla
PA Solvo Biotechnology Inc., Hung.
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI WO 2003035685 A1 20030501 WO 2002-HU108 20021024
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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WO 2002071073 A2 20020912 WO 2002-HU15 20020304
WO 2002071073 A3 20030403
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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PRAI HU 2001-4446 A 20011024
WO 2002-HU15 A 20020304
HU 2002-3435 A 20021011
HU 2001-947 A 20010302
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2003:3461 CAPLUS
TI Breast cancer **resistance** protein (BCRP/ABCG2) induces cellular **resistance** to HIV-1 nucleoside reverse transcriptase inhibitors
AU Wang, Xin; Furukawa, Tatsuhiko; Nitanda, Takao; Okamoto, Mika; Sugimoto, Yoshikazu; Akiyama, Shin-Ichi; Baba, Masanori
CS Division of Human Retroviruses, Center for Chronic Viral Diseases, Faculty of Medicine, Kagoshima University, Kagoshima, Japan
SO Molecular Pharmacology (2003), 63(1), 65-72
CODEN: MOPMA3; ISSN: 0026-895X
PB American Society for Pharmacology and Experimental Therapeutics
DT Journal
LA English
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2002:696659 CAPLUS
DN 137:222100
TI Improving bioavailability of orally administered drugs, screening for enhancers of such bioavailability and oral drug delivery compositions
IN Schellens, Johannes Henricus Matthias; Schinkel, Alfred Hermanus
PA Netherlands Cancer Institute, Neth.
SO U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of Appl. No. PCT/NL00/00331.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002128282	A1	20020912	US 2001-988285	20011119

WO 2000069390 A2 20001123 WO 2000-NL331 20000517
WO 2000069390 A3 20011213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI NL 1999-1012066 A 19990517
NL 1999-1012481 A 19990630
WO 2000-NL331 A2 20000517

L9 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2002:696257 CAPLUS
DN 137:226574
TI Screening system based on expression of ABCG2 half transporter protein
IN Oezvegy, Csilla; Szakacs, Gergely; Varadi, Andras; Nagy, Zoltan
PA Solvo Biotechnology Inc., Hung.
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002071073	A2	20020912	WO 2002-HU15	20020304
WO 2002071073	A3	20030403		

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WO 2003035685	A1	20030501	WO 2002-HU108	20021024

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI HU 2001-947 A 20010302
HU 2001-4446 A 20011024
WO 2002-HU15 A 20020304
HU 2002-3435 A 20021011

L9 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2002:524344 CAPLUS
DN 138:201203
TI Flow cytometric analysis of breast cancer **resistance** protein expression and function

AU Minderman, Hans; Suvannasankha, Attaya; O'Loughlin, Kieran L.; Scheffer, George L.; Scheper, Rik J.; Robey, Robert W.; Baer, Maria R.
CS Leukemia Section, Department of Medicine, Roswell Park Cancer Institute, Buffalo, NY, USA
SO Cytometry (2002), 48(2), 59-65
CODEN: CYTODQ; ISSN: 0196-4763
PB Wiley-Liss, Inc.
DT Journal
LA English
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2002:290794 CAPLUS
DN 136:304053
TI Reversal of multidrug **resistance** in human colon carcinoma cells using fumitremorgins and diketopiperazines
IN Rabindran, Sridhar Krishna; He, Haiyin; Greenberger, Lee Martin
PA American Cyanamid Company, USA
SO U.S., 19 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6372775	B1	20020416	US 1999-321182	19990527
	US 2002156015	A1	20021024	US 2002-86169	20020228
	US 2002169111	A1	20021114	US 2002-86132	20020228
	US 6537964	B1	20030325	US 2002-86170	20020228
	US 2003083230	A1	20030501	US 2002-86133	20020228
PRAI	US 1998-109801P	P	19980527		
	US 1999-321182	A3	19990527		

OS MARPAT 136:304053
RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2001:487684 CAPLUS
DN 135:328480
TI Functional Characterization of the Human Multidrug Transporter, ABCG2, Expressed in Insect Cells
AU Ozvegy, Csilla; Litman, Thomas; Szakacs, Gergely; Nagy, Zoltan; Bates, Susan; Varadi, Andras; Sarkadi, Balazs
CS Institute of Enzymology, Biological Research Center, Hungarian Academy of Sciences, Budapest, H-1113, Hung.
SO Biochemical and Biophysical Research Communications (2001), 285(1), 111-117
CODEN: BBRCA9; ISSN: 0006-291X
PB Academic Press
DT Journal
LA English
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2001:429174 CAPLUS
DN 135:285265
TI A functional assay for detection of the mitoxantrone **resistance** protein, MXR (ABCG2)
AU Robey, R. W.; Honjo, Y.; van de Laar, A.; Miyake, K.; Regis, J. T.; Litman, T.; Bates, S. E.

CS Center for Cancer Research, Medicine Branch, Developmental Therapeutics Department, National Cancer Institute, National Institutes of Health, Bethesda, MD, 20892, USA
SO Biochimica et Biophysica Acta (2001), 1512(2), 171-182
CODEN: BBACAQ; ISSN: 0006-3002
PB Elsevier Science B.V.
DT Journal
LA English
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:872654 CAPLUS
DN 134:216800
TI Inhibition of BCRP-mediated drug efflux by fumitremorgin-type indolyl diketopiperazines
AU van Loevezijn, A.; Allen, J. D.; Schinkel, A. H.; Koomen, G.-J.
CS Institute of Molecular Chemistry, Laboratory of Organic Chemistry, University of Amsterdam, Amsterdam, NL-1018 WS, Neth.
SO Bioorganic & Medicinal Chemistry Letters (2000), Volume Date 2001, 11(1), 29-32
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:824069 CAPLUS
DN 134:9341
TI A method of improving bioavailability of orally administered drugs, screening for enhancers of such bioavailability and novel pharmaceutical compositions for oral delivery of drugs
IN Schellens, Johannes Henricus Matthias; Schinkel, Alfred Hermanus
PA Het Nederlands Kankerinstituut, Neth.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000069390	A2	20001123	WO 2000-NL331	20000517
	WO 2000069390	A3	20011213		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2000049552	A5	20010205	AU 2000-49552	20000517
	EP 1189637	A2	20020327	EP 2000-931720	20000517
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 2002128282	A1	20020912	US 2001-988285	20011119
PRAI	NL 1999-1012066	A	19990517		
	NL 1999-1012481	A	19990630		
	WO 2000-NL331	W	20000517		

L9 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:72225 CAPLUS
DN 132:216690
TI Fumitremorgin C reverses multidrug **resistance** in cells transfected with the breast cancer **resistance** protein
AU Rabindran, Sridhar K.; Ross, Douglas D.; Doyle, L. Austin; Yang, Weidong; Greenberger, Lee M.
CS Oncology and Immunoinflammatory Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (2000), 60(1), 47-50
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:27209 CAPLUS
DN 132:180759
TI Fumitremorgin C analogs that reverse mitoxantrone **resistance** in human colon carcinoma cells
AU He, Haiyin; Rabindran, Sridhar G.; Greenberger, Lee M.; Carter, Guy T.
CS Natural Products Chemistry, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Medicinal Chemistry Research (1999), 9(6), 424-437
CODEN: MCREEB; ISSN: 1054-2523
PB Birkhaeuser Boston
DT Journal
LA English
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1999:511178 CAPLUS
DN 131:143080
TI A multidrug **resistance** protein associated with antitumor drug **resistance** in breast cancer and a cDNA encoding it
IN Ross, Douglas D.; Doyle, L. Austin; Abruzzo, Lynne
PA University of Maryland, Baltimore, USA
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9940110	A1	19990812	WO 1999-US2577	19990205
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2319715	AA	19990812	CA 1999-2319715	19990205
AU 9927610	A1	19990823	AU 1999-27610	19990205
AU 755567	B2	20021212		
EP 1054894	A1	20001129	EP 1999-908097	19990205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

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L2          16 CISPLATIN/BI

=> s fumitremorgin c
            36 FUMITREMORGIN
       2061134 C
L3            8 FUMITREMORGIN C
                  (FUMITREMORGIN(W)C)

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      18.08      21.84

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                       0.00      -0.65

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FILE COVERS 1907 - 19 Jun 2003  VOL 138 ISS 25
FILE LAST UPDATED: 18 Jun 2003  (20030618/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d his

     (FILE 'HOME' ENTERED AT 15:54:12 ON 19 JUN 2003)

     FILE 'CAPLUS' ENTERED AT 15:54:21 ON 19 JUN 2003

     FILE 'REGISTRY' ENTERED AT 15:55:33 ON 19 JUN 2003
L1            0 S CISPLATEN
                E CISPLATEN
L2           16 S E4
L3            8 S FUMITREMORGIN C

     FILE 'CAPLUS' ENTERED AT 15:57:27 ON 19 JUN 2003

=> s l1
L4            0 L1

=> s l2
L5        14128 L2
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111427-99-7, TR 3 111468-06-5 115589-18-9 118974-02-0, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	3.55	3.76

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-0.65

FILE 'REGISTRY' ENTERED AT 15:55:33 ON 19 JUN 2003
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 18 JUN 2003 HIGHEST RN 533863-98-8
DICTIONARY FILE UPDATES: 18 JUN 2003 HIGHEST RN 533863-98-8

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s cisplaten
L1 0 CISPLATEN

=> e cisplaten
E1 1 CISPERMETHRIN/BI
E2 1 CISPLAT/BI
E3 0 --> CISPLATEN/BI
E4 16 CISPLATIN/BI
E5 1 CISPLATINUM/BI
E6 1 CISPLATYL/BI
E7 5 CISS/BI
E8 2 CISSAGLABERR/BI
E9 2 CISSAGLABERRIMINE/BI
E10 2 CISSAM/BI
E11 5 CISSAMINE/BI
E12 5 CISSAMPAREINE/BI

=> se4
SE4 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter

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LOGINID:ssspta1125rxt

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
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NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 39	May 16	CHEMREACT will be removed from STN
NEWS 40	May 19	Simultaneous left and right truncation added to WSCA
NEWS 41	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 42	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 43	Jun 06	PASCAL enhanced with additional data

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 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

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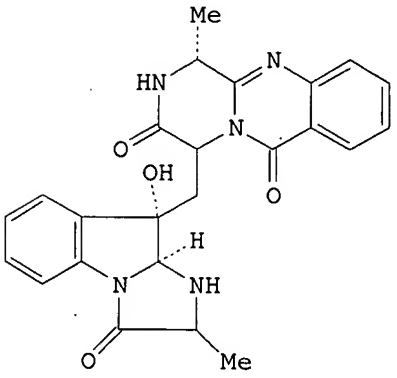
FILE COVERS 1907 - 19 Jun 2003  VOL 138 ISS 25
FILE LAST UPDATED: 18 Jun 2003  (20030618/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d 116:210833 all

ANSWER 1  CAPLUS  COPYRIGHT 2003 ACS
AN   1992:210833  CAPLUS
DN   116:210833
TI   Structures of cytotoxic substances and new quinazoline derivatives
     produced by a fungus from a saltwater fish
AU   Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika;
     Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi,
     Hirofumi; Shingu, Tetsuro
CS   Osaka Univ. Pharm. Sci., Osaka, Japan
```

SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic leukemia cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure

IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)

IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT Neoplasm inhibitors
(leukemia, fumiquinazolines as, from Aspergillus fumigatus)

IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5

10/086,133

Welcome to STN International! Enter x:x

LOGINID:ssspta1125rxt

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	Jun 03	New e-mail delivery for search results now available
NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 20	EVENTLINE will be removed from STN
NEWS 28	Mar 24	PATDPAFULL now available on STN
NEWS 29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 30	Apr 11	Display formats in DGENE enhanced
NEWS 31	Apr 14	MEDLINE Reload
NEWS 32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 33	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
NEWS 34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 35	Apr 28	RDISCLOSURE now available on STN
NEWS 36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 38	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 39	May 16	CHEMREACT will be removed from STN
NEWS 40	May 19	Simultaneous left and right truncation added to WSCA
NEWS 41	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation

NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT

```
                MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
                AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS     STN Operating Hours Plus Help Desk Availability
 NEWS INTER     General Internet Information
 NEWS LOGIN     Welcome Banner and News Items
 NEWS PHONE     Direct Dial and Telecommunication Network Access to STN
 NEWS WWW       CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:49:45 ON 02 JUN 2003

=> e reg
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
The EXPAND command is used to look at the index in a file
which has an index.  This file does not have an index.

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'REGISTRY' ENTERED AT 15:49:57 ON 02 JUN 2003
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES:     1 JUN 2003  HIGHEST RN 523977-56-2
DICTIONARY FILE UPDATES:    1 JUN 2003  HIGHEST RN 523977-56-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e fumitremorgin
E1            4     FUMITOXIN/BI
E2            1     FUMITREMORGEN/BI
E3           36 --> FUMITREMORGIN/BI
E4            3     FUMJUDAINE/BI
E5            1     FUMMITE/BI
E6            2     FUMOFICIN/BI
E7            1     FUMOFICINAL/BI
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```
E8            1     FUMOFICINALINE/BI
E9            1     FUMOFICINAMINE/BI
E10         145     FUMONISIN/BI
E11           7     FUMOSA/BI
E12           1     FUMOSIAVELLANEA/BI

=> s e3
L1           36 FUMITREMORGIN/BI

=> d l1 30-36

L1   ANSWER 30 OF 36  REGISTRY  COPYRIGHT 2003 ACS
RN   55387-47-8  REGISTRY
CN   Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
     1'-(acetyloxy)-4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-
     quinazolinyl]-1',3,4,9'a-tetrahydro-2',2'-dimethyl-, [9'S-
     [9'.alpha.[4S*(R*)],9'a.beta.]]- (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Fumitremorgin C acetate
CN   Tryptoquivaline A acetate
CN   Tryptoquivaline acetate
MF   C31 H32 N4 O8
LC   STN Files:   BEILSTEIN*, CA, CAPLUS
         (*File contains numerically searchable property data)
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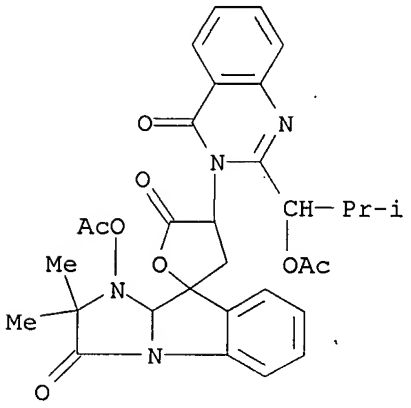


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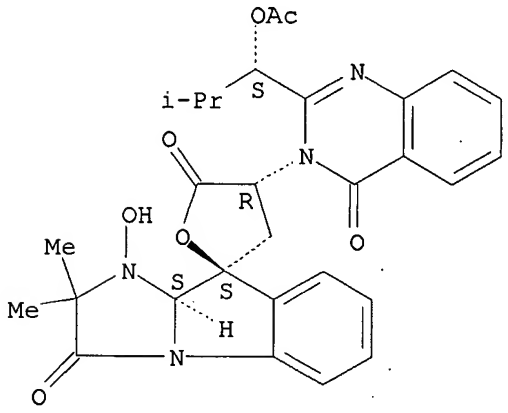
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

              2 REFERENCES IN FILE CA (1957 TO DATE)
              2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1   ANSWER 31 OF 36  REGISTRY  COPYRIGHT 2003 ACS
RN   55387-45-6  REGISTRY
CN   Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
     4-[2-[(1S)-1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-
     1',3,4,9'a-tetrahydro-1'-hydroxy-2',2'-dimethyl-, (2S,4R,9'aS)- (9CI)  (CA
     INDEX NAME)
OTHER CA INDEX NAMES:
CN   Spiro[furan-2(5H),9'-[9H]imidazo[1,2-a]indole]-3',5(2'H)-dione,
     4-[2-[1-(acetyloxy)-2-methylpropyl]-4-oxo-3(4H)-quinazolinyl]-1',3,4,9'a-
     tetrahydro-1'-hydroxy-2',2'-dimethyl-, [9'S-[9'.alpha.[4S*(R*)],9'a.beta.]
     ]-
OTHER NAMES:
CN   Fumitremorgin C
CN   Tryptoquivaline
```

CN Tryptoquivaline A
CN Tryptoquivaline C
FS STEREOSEARCH
MF C29 H30 N4 O7
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, EMBASE, MEDLINE, NAPRALERT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).

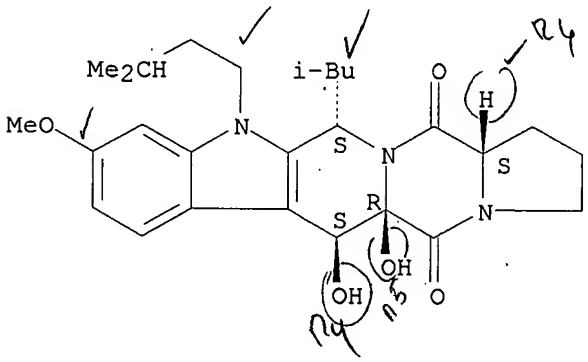


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12 REFERENCES IN FILE CA (1957 TO DATE)
12 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 32 OF 36 REGISTRY COPYRIGHT 2003 ACS
RN 54009-33-5 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methylbutyl)-12-(2-methylpropyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Tetrahydrofumitremorgin B**
CN Tetrahydrolanosulin
FS STEREOSEARCH
MF C27 H37 N3 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.

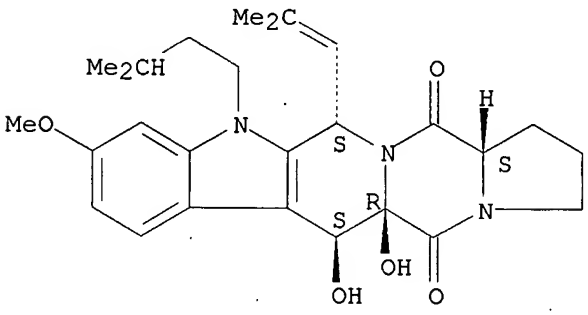


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 33 OF 36 REGISTRY COPYRIGHT 2003 ACS
RN 54009-32-4 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methylbutyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **22,23-Dihydrofumitremorgin B**
CN **Dihydrofumitremorgin B**
CN Dihydrolanosulin
FS STEREOSEARCH
MF C27 H35 N3 O5
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.

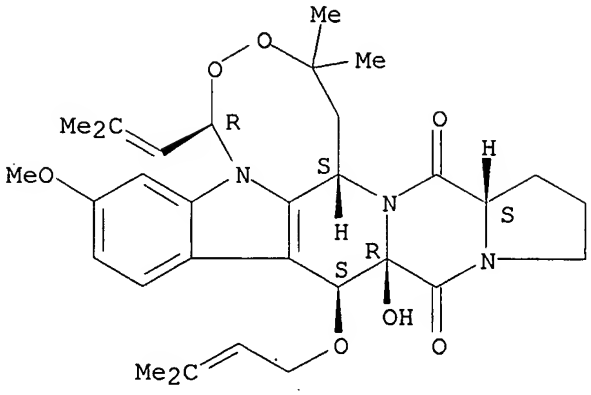


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 34 OF 36 REGISTRY COPYRIGHT 2003 ACS
RN 12626-18-5 REGISTRY
CN 5H,12H-3,4-Dioxa-5a,11a,15a-triazacyclooct[1m]indeno[5,6-b]fluorene-11,15(2H,13H)-dione, 1,10,10a,14,14a,15b-hexahydro-10a-hydroxy-7-methoxy-2,2-dimethyl-10-[(3-methyl-2-butenyl)oxy]-5-(2-methyl-1-propenyl)-, (5R,10S,10aR,14aS,15bS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,12H-3,4-Dioxa-5a,11a,15a-triazacyclooct[1m]indeno[5,6-b]fluorene-11,15(2H,13H)-dione, 1,10,10a,14,14a,15b-hexahydro-10a-hydroxy-7-methoxy-2,2-dimethyl-10-[(3-methyl-2-butenyl)oxy]-5-(2-methyl-1-propenyl)-, [5R-(5.alpha.,10.alpha.,10a.alpha.,14a.alpha.,15b.alpha.)]-
OTHER NAMES:
CN Fumitremorgen A
CN **Fumitremorgin A**
FS STEREOSEARCH
MF C32 H41 N3 O7
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPLUS, DDFU, DRUGU, EMBASE, MEDLINE, NAPRALERT, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.

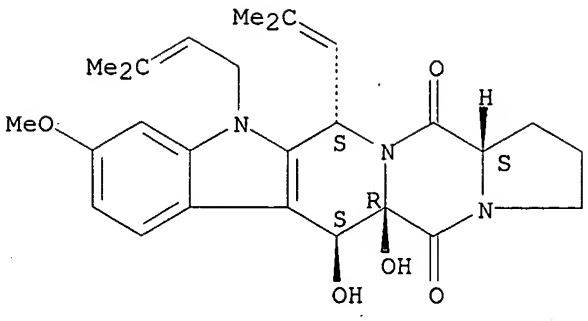


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

24 REFERENCES IN FILE CA (1957 TO DATE)
24 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 35 OF 36 REGISTRY COPYRIGHT 2003 ACS
RN 12626-17-4 REGISTRY
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, (5aR,6S,12S,14aS)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5H,14H-Pyrrolo[1'',2'':4',5']pyrazino[1',2':1,6]pyrido[3,4-b]indole-5,14-dione, 1,2,3,5a,6,11,12,14a-octahydro-5a,6-dihydroxy-9-methoxy-11-(3-methyl-2-butenyl)-12-(2-methyl-1-propenyl)-, [5aR-(5a.alpha.,6.alpha.,12.beta.,14a.alpha.)]-
OTHER NAMES:
CN **Fumitremorgin B**
CN Lanosulin
CN NA 209B
FS STEREOSEARCH
DR 40451-43-2
MF C27 H33 N3 O5
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAPLUS, CASREACT, DDFU, DRUGU, EMBASE, MEDLINE, NAPRALERT, RTECS*, SPECINFO, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

42 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
42 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L1 ANSWER 36 OF 36 REGISTRY COPYRIGHT 2003 ACS
RN 11100-25-7 REGISTRY
CN **Fumitremorgin (9CI)** (CA INDEX NAME)
MF Unspecified
CI MAN
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, TOXCENTER

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
9 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=>

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	19.98	20.19

FILE 'CAPLUS' ENTERED AT 15:56:12 ON 02 JUN 2003
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FILE COVERS 1907 - 2 Jun 2003 VOL 138 ISS 23
FILE LAST UPDATED: 1 Jun 2003 (20030601/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> e neoplasm
E1            1     NEOPLASIQUES/BI
E2            8     NEOPLASIS/BI
E3       294242 --> NEOPLASM/BI
E4          183     NEOPLASMA/BI
E5            1     NEOPLASMAGEL/BI
E6           31     NEOPLASMAS/BI
E7            2     NEOPLASMATA/BI
E8           12     NEOPLASMATIC/BI
E9            1     NEOPLASME/BI
E10           1     NEOPLASMIA/BI
E11          65     NEOPLASMIC/BI
E12           6     NEOPLASMIN/BI

=> s s e3-e12
MISSING OPERATOR 'S (NEOPLASM/B'
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s e3-e12
        294242 NEOPLASM/BI
           183 NEOPLASMA/BI
             1 NEOPLASMAGEL/BI
            31 NEOPLASMAS/BI
             2 NEOPLASMATA/BI
            12 NEOPLASMATIC/BI
             1 NEOPLASME/BI
             1 NEOPLASMIA/BI
            65 NEOPLASMIC/BI
             6 NEOPLASMIN/BI
L2      294365 (NEOPLASM/BI OR NEOPLASMA/BI OR NEOPLASMAGEL/BI OR NEOPLASMAS/BI
                OR NEOPLASMATA/BI OR NEOPLASMATIC/BI OR NEOPLASME/BI OR NEOPLAS
               MIA/BI OR NEOPLASMIC/BI OR NEOPLASMIN/BI)

=> e cancer
E1           13     CANCENTRINE/BI
E2            1     CANCENTRINEMETHINE/BI
E3       188215 --> CANCER/BI
E4            1     CANCER0/BI
E5            3     CANCER1/BI
E6            1     CANCER10/BI
E7            1     CANCER4/BI
E8            1     CANCERA/BI
E9            2     CANCERAND/BI
E10           1     CANCERARRAY/BI
E11          37     CANCERATION/BI
E12           1     CANCERB/BI

=> s e3
L3      188215 CANCER/BI

=> s l1
L4         115 L1

=> d l4 and l2
L2 IS NOT VALID HERE
For an explanation, enter "HELP DISPLAY".

=> s l4 andll2
MISSING OPERATOR L4 ANDLL2
The search profile that was entered contains terms or
```

nested terms that are not separated by a logical operator.

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=> s l4 and l2
L5            8 L4 AND L2

=> d l5 1-8

L5   ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2003 ACS
AN   2002:290794  CAPLUS
DN   136:304053
TI   Reversal of multidrug resistance in human colon carcinoma cells using
     fumitremorgins and diketopiperazines
IN   Rabindran, Sridhar Krishna; He, Haiyin; Greenberger, Lee Martin
PA   American Cyanamid Company, USA
SO   U.S., 19 pp.
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
     ---------------    ----  --------      ---------------  --------
PI   US 6372775          B1   20020416      US 1999-321182   19990527
     US 2002156015       A1   20021024      US 2002-86169    20020228
     US 2002169111       A1   20021114      US 2002-86132    20020228
     US 6537964          B1   20030325      US 2002-86170    20020228
     US 2003083230       A1   20030501      US 2002-86133    20020228
PRAI US 1998-109801P     P    19980527
     US 1999-321182      A3   19990527
OS   MARPAT 136:304053
RE.CNT  72    THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5   ANSWER 2 OF 8  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:824069  CAPLUS
DN   134:9341
TI   A method of improving bioavailability of orally administered drugs,
     screening for enhancers of such bioavailability and novel pharmaceutical
     compositions for oral delivery of drugs
IN   Schellens, Johannes Henricus Matthias; Schinkel, Alfred Hermanus
PA   Het Nederlands Kankerinstituut, Neth.
SO   PCT Int. Appl., 25 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.         KIND  DATE          APPLICATION NO.  DATE
     ---------------    ----  --------      ---------------  --------
PI   WO 2000069390       A2   20001123      WO 2000-NL331    20000517
     WO 2000069390       A3   20011213
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              CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
              ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
              LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
              SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
              ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
          RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
              DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
              CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     AU 2000049552       A5   20010205      AU 2000-49552    20000517
     EP 1189637          A2   20020327      EP 2000-931720   20000517
          R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO
```

	US 2002128282	A1	20020912	US 2001-988285	20011119
PRAI	NL 1999-1012066	A	19990517		
	NL 1999-1012481	A	19990630		
	WO 2000-NL331	W	20000517		

L5 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 2000:72225 CAPLUS
DN 132:216690
TI Fumitremorgin C reverses multidrug resistance in cells transfected with the breast cancer resistance protein
AU Rabindran, Sridhar K.; Ross, Douglas D.; Doyle, L. Austin; Yang, Weidong; Greenberger, Lee M.
CS Oncology and Immunoinflammatory Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (2000), 60(1), 47-50
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 2000:27209 CAPLUS
DN 132:180759
TI Fumitremorgin C analogs that reverse mitoxantrone resistance in human colon carcinoma cells
AU He, Haiyin; Rabindran, Sridhar G.; Greenberger, Lee M.; Carter, Guy T.
CS Natural Products Chemistry, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Medicinal Chemistry Research (1999), 9(6), 424-437
CODEN: MCREEB; ISSN: 1054-2523
PB Birkhaeuser Boston
DT Journal
LA English
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1999:511178 CAPLUS
DN 131:143080
TI A multidrug resistance protein associated with antitumor drug resistance in breast cancer and a cDNA encoding it
IN Ross, Douglas D.; Doyle, L. Austin; Abruzzo, Lynne
PA University of Maryland, Baltimore, USA
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9940110	A1	19990812	WO 1999-US2577	19990205
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2319715	AA	19990812	CA 1999-2319715	19990205

	AU 9927610	A1	19990823	AU 1999-27610	19990205
	AU 755567	B2	20021212		
	EP 1054894	A1	20001129	EP 1999-908097	19990205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6313277	B1	20011106	US 1999-245808	19990205
	JP 2002502592	T2	20020129	JP 2000-530538	19990205
	US 2003036645	A1	20030220	US 2001-961086	20010921
PRAI	US 1998-73763P	P	19980205		
	US 1999-245808	A3	19990205		
	WO 1999-US2577	W	19990205		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1999:2922 CAPLUS
DN 130:177236
TI Reversal of a novel multidrug resistance mechanism in human colon carcinoma cells by fumitremorgin C
AU Rabindran, Sridhar K.; He, Haiyin; Singh, Maya; Brown, Eileen; Collins, Karen I.; Annable, Tami; Greenberger, Lee M.
CS Oncology and Immunology Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (1998), 58(24), 5850-5858
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1996:703657 CAPLUS
DN 126:16546
TI Isolation, structure determination and biological activities of novel mammalian cell cycle inhibitors, spirotryprostatins A & B, tryprostatins A & B and related new diketopiperazine derivatives produced by a fungus, Aspergillus fumigatus
AU Cui, Cheng-Bin; Kakeya, Hideaki; Osada, Hiroyuki
CS Institute Physical and Chemical Research, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1996), 38th, 49-54
CODEN: TYKYDS
PB Nippon Kagakkai
DT Journal
LA Japanese

L5 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese

=> d l5 7 8 all

L5 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1996:703657 CAPLUS
DN 126:16546
TI Isolation, structure determination and biological activities of novel mammalian cell cycle inhibitors, spirotryprostatins A & B, tryprostatins A & B and related new diketopiperazine derivatives produced by a fungus, Aspergillus fumigatus
AU Cui, Cheng-Bin; Kakeya, Hideaki; Osada, Hiroyuki
CS Institute Physical and Chemical Research, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1996), 38th, 49-54
CODEN: TYKYDS
PB Nippon Kagakkai
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A discussion is given on the prodn., isolation, structure detn., and biol. activities of the novel Aspergillus fumigatus diketopiperazine alkaloids spirotryprostatins A (I) and B, tryprostatins A (II) and B, and cyclotryprostatins B and D, the 3 new natural diketopiperazines cyclotryprostatins A (III) and C, and demethoxyfumitremorgin C (IV), and on several known diketopiperazines, such as fumitremorgin C. Structures of the new diketopiperazines were detd. mainly by spectroscopic methods. All of the compds. are inhibitors of the G2/M transition of tsFT210 cells at micromolar dosages. Some structure-activity relations were obsd.
ST Aspergillus diketopiperazine alkaloid cell cycle inhibitor; spirotryprostatin mammal cell cycle inhibitor Aspergillus; antitumor diketopiperazine alkaloid Aspergillus; tryprostatin mammal cell cycle inhibitor Aspergillus; **neoplasm** inhibitor diketopiperazine deriv Aspergillus
IT Mitosis
(-G2 transition; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT Interphase (cell cycle)
(G2-phase, -M transition; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT Structure-activity relationship
(antimitotic; of diketopiperazines)
IT Structure-activity relationship
(antitumor; of diketopiperazines)
IT New natural products
(cyclotryprostatin A (diketopiperazine))
IT New natural products
(cyclotryprostatin B (diketopiperazine))
IT New natural products
(cyclotryprostatin C (diketopiperazine))
IT New natural products
(cyclotryprostatin D (diketopiperazine))
IT Antitumor agents
(diketopiperazine derivs. from Aspergillus fumigatus as)
IT Aspergillus fumigatus
Fermentation
(diketopiperazine derivs. produced and isolated from Aspergillus

fumigatus are novel mammalian cell cycle inhibitors)

IT Molecular structure, natural product
(of cyclotryprostatin A (diketopiperazine))

IT Molecular structure, natural product
(of cyclotryprostatin B (diketopiperazine))

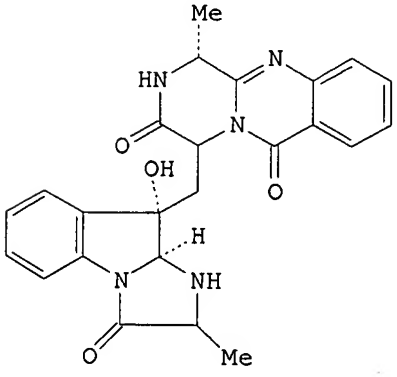
IT Molecular structure, natural product
(of cyclotryprostatin C (diketopiperazine))

IT Molecular structure, natural product
(of cyclotryprostatin D (diketopiperazine))

IT Alkaloids, biological studies
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(piperazine, dioxo; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)

IT 111427-97-5P, Cyclotryprostatin C 111468-06-5P, Cyclotryprostatin A **111768-16-2P 118974-02-0P**, Fumitremorgin C.
171864-80-5P, Tryprostatin A 179936-52-8P, Tryprostatin B
182234-25-9P, Spirotryprostatin A 182234-26-0P, Spirotryprostatin B
184305-67-7P, Cyclotryprostatin B 184305-68-8P, Cyclotryprostatin D
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)

L5 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic leukemia cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure

IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)

IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT **Neoplasm** inhibitors
(leukemia, fumiquinazolines as, from Aspergillus fumigatus)

IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 **111427-99-7**, TR 3 111468-06-5 115589-18-9 **118974-02-0**, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=> s l4 andl3
MISSING OPERATOR L4 ANDL3
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s l4 and l3
L6 12 L4 AND L3

=> d l6 1-12

L6 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2003:335139 CAPLUS
DN 138:332878
TI Application of a human multidrug transporter (abcg2) variant as selectable marker in gene transfer to progenitor cells and in gene therapy
IN Nemet, Katalin; Varadi, Gyorgy; Cervenak, Judit; Ujhelly, Olga; Sarkadi, Balazs; Varadi, Andras; Oezvegy, Csilla
PA Solvo Biotechnology Inc., Hung.

SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003035685	A1	20030501	WO 2002-HU108	20021024
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2002071073	A2	20020912	WO 2002-HU15	20020304
WO 2002071073	A3	20030403		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI HU 2001-4446 A 20011024
WO 2002-HU15 A 20020304
HU 2002-3435 A 20021011
HU 2001-947 A 20010302
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2002:696659 CAPLUS
DN 137:222100
TI Improving bioavailability of orally administered drugs, screening for enhancers of such bioavailability and oral drug delivery compositions
IN Schellens, Johannes Henricus Matthias; Schinkel, Alfred Hermanus
PA Netherlands Cancer Institute, Neth.
SO U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of Appl. No. PCT/NL00/00331.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002128282	A1	20020912	US 2001-988285	20011119
WO 2000069390	A2	20001123	WO 2000-NL331	20000517
WO 2000069390	A3	20011213		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,				

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI NL 1999-1012066 A 19990517
NL 1999-1012481 A 19990630
WO 2000-NL331 A2 20000517

L6 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2002:696257 CAPLUS
DN 137:226574
TI Screening system based on expression of ABCG2 half transporter protein
IN Oezvegy, Csilla; Szakacs, Gergely; Varadi, Andras; Nagy, Zoltan
PA Solvo Biotechnology Inc., Hung.
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002071073	A2	20020912	WO 2002-HU15	20020304
WO 2002071073	A3	20030403		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2003035685	A1	20030501	WO 2002-HU108	20021024

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI HU 2001-947 A 20010302
HU 2001-4446 A 20011024
WO 2002-HU15 A 20020304
HU 2002-3435 A 20021011

L6 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2002:524344 CAPLUS
DN 138:201203
TI Flow cytometric analysis of breast **cancer** resistance protein expression and function
AU Minderman, Hans; Suvannasankha, Attaya; O'Loughlin, Kieran L.; Scheffer, George L.; Scheper, Rik J.; Robey, Robert W.; Baer, Maria R.
CS Leukemia Section, Department of Medicine, Roswell Park Cancer Institute, Buffalo, NY, USA
SO Cytometry (2002), 48(2), 59-65
CODEN: CYTODQ; ISSN: 0196-4763
PB Wiley-Liss, Inc.
DT Journal
LA English

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2002:290794 CAPLUS
DN 136:304053
TI Reversal of multidrug resistance in human colon carcinoma cells using fumitremorgins and diketopiperazines
IN Rabindran, Sridhar Krishna; He, Haiyin; Greenberger, Lee Martin
PA American Cyanamid Company, USA
SO U.S., 19 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6372775	B1	20020416	US 1999-321182	19990527
	US 2002156015	A1	20021024	US 2002-86169	20020228
	US 2002169111	A1	20021114	US 2002-86132	20020228
	US 6537964	B1	20030325	US 2002-86170	20020228
	US 2003083230	A1	20030501	US 2002-86133	20020228
PRAI	US 1998-109801P	P	19980527		
	US 1999-321182	A3	19990527		

OS MARPAT 136:304053
RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2002:46901 CAPLUS
DN 137:125308
TI Solid phase synthesis of fumitremorgin-type and other indole alkaloids based on cyclization/cleavage strategy
AU van Loevezijn, Arnold; Rodenko, Boris; Sorm, Willem P.; van Maarseveen, Jan H.; Stegman, Karel; Visser, Geb M.; van Delft, Floris L.; Koomen, Gerrit-Jan
CS Laboratory of Organic Chemistry, Institute for Molecular Chemistry, University of Amsterdam, Amsterdam, NL-1018 WS, Neth.
SO Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 367-370. Editor(s): Epton, Roger. Publisher: Mayflower Scientific Ltd., Kingswinford, UK.
CODEN: 69CEGV; ISBN: 0-9515735-3-5
DT Conference
LA English
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2001:487684 CAPLUS
DN 135:328480
TI Functional Characterization of the Human Multidrug Transporter, ABCG2, Expressed in Insect Cells
AU Ozvegy, Csilla; Litman, Thomas; Szakacs, Gergely; Nagy, Zoltan; Bates, Susan; Varadi, Andras; Sarkadi, Balazs
CS Institute of Enzymology, Biological Research Center, Hungarian Academy of Sciences, Budapest, H-1113, Hung.
SO Biochemical and Biophysical Research Communications (2001), 285(1), 111-117
CODEN: BBRCA9; ISSN: 0006-291X

PB Academic Press
DT Journal
LA English
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2000:872654 CAPLUS
DN 134:216800
TI Inhibition of BCRP-mediated drug efflux by fumitremorgin-type indolyl diketopiperazines
AU van Loevezijn, A.; Allen, J. D.; Schinkel, A. H.; Koomen, G.-J.
CS Institute of Molecular Chemistry, Laboratory of Organic Chemistry, University of Amsterdam, Amsterdam, NL-1018 WS, Neth.
SO Bioorganic & Medicinal Chemistry Letters (2000), Volume Date 2001, 11(1), 29-32
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2000:824069 CAPLUS
DN 134:9341
TI A method of improving bioavailability of orally administered drugs, screening for enhancers of such bioavailability and novel pharmaceutical compositions for oral delivery of drugs
IN Schellens, Johannes Henricus Matthias; Schinkel, Alfred Hermanus
PA Het Nederlands Kankerinstituut, Neth.
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000069390	A2	20001123	WO 2000-NL331	20000517
	WO 2000069390	A3	20011213		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 2000049552	A5	20010205	AU 2000-49552	20000517
	EP 1189637	A2	20020327	EP 2000-931720	20000517
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 2002128282	A1	20020912	US 2001-988285	20011119
PRAI	NL 1999-1012066	A	19990517		
	NL 1999-1012481	A	19990630		
	WO 2000-NL331	W	20000517		

L6 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 2000:72225 CAPLUS
DN 132:216690
TI Fumitremorgin C reverses multidrug resistance in cells transfected with

the breast **cancer** resistance protein
AU Rabindran, Sridhar K.; Ross, Douglas D.; Doyle, L. Austin; Yang, Weidong; Greenberger, Lee M.
CS Oncology and Immunoinflammatory Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (2000), 60(1), 47-50
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 1999:511178 CAPLUS
DN 131:143080
TI A multidrug resistance protein associated with antitumor drug resistance in breast **cancer** and a cDNA encoding it
IN Ross, Douglas D.; Doyle, L. Austin; Abruzzo, Lynne
PA University of Maryland, Baltimore, USA
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9940110	A1	19990812	WO 1999-US2577	19990205
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2319715	AA	19990812	CA 1999-2319715	19990205
	AU 9927610	A1	19990823	AU 1999-27610	19990205
	AU 755567	B2	20021212		
	EP 1054894	A1	20001129	EP 1999-908097	19990205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6313277	B1	20011106	US 1999-245808	19990205
	JP 2002502592	T2	20020129	JP 2000-530538	19990205
	US 2003036645	A1	20030220	US 2001-961086	20010921
PRAI	US 1998-73763P	P	19980205		
	US 1999-245808	A3	19990205		
	WO 1999-US2577	W	19990205		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2003 ACS
AN 1999:173577 CAPLUS
DN 131:13477
TI Multiple mechanisms confer drug resistance to mitoxantrone in the human 8226 myeloma cell line
AU Hazlehurst, Lori A.; Foley, Nils E.; Gleason-Guzman, Mary C.; Hacker, Miles P.; Cress, Anne E.; Greenberger, Lee W.; De Jong, Mariska C.; Dalton, William S.
CS Department of Biochemistry, Pharmacology, and Internal Medicine, H. Lee Moffitt Cancer Center, University of South Florida, Tampa, FL, 33612, USA
SO Cancer Research (1999), 59(5), 1021-1028

CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> e carcinoma
E1 12 CARCINOLYTICS/BI
E2 2 CARCINOM/BI
E3 100333 --> CARCINOMA/BI
E4 1 CARCINOMA1/BI
E5 1 CARCINOMABEARING/BI
E6 1 CARCINOMAFATTY/BI
E7 1 CARCINOMAGENESIS/BI
E8 1 CARCINOMAIN/BI
E9 1 CARCINOMAINHIBITING/BI
E10 17 CARCINOMAL/BI
E11 1 CARCINOMAN/BI
E12 2 CARCINOMANA/BI

=> s e3
L7 100333 CARCINOMA/BI

=> s l7 and l4
L8 3 L7 AND L4

=> d l8 1-3

L8 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2002:290794 CAPLUS
DN 136:304053
TI Reversal of multidrug resistance in human colon **carcinoma** cells using fumitremorgins and diketopiperazines
IN Rabindran, Sridhar Krishna; He, Haiyin; Greenberger, Lee Martin
PA American Cyanamid Company, USA
SO U.S., 19 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6372775	B1	20020416	US 1999-321182	19990527
	US 2002156015	A1	20021024	US 2002-86169	20020228
	US 2002169111	A1	20021114	US 2002-86132	20020228
	US 6537964	B1	20030325	US 2002-86170	20020228
	US 2003083230	A1	20030501	US 2002-86133	20020228
PRAI	US 1998-109801P	P	19980527		
	US 1999-321182	A3	19990527		

OS MARPAT 136:304053
RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2000:27209 CAPLUS
DN 132:180759
TI Fumitremorgin C analogs that reverse mitoxantrone resistance in human colon **carcinoma** cells
AU He, Haiyin; Rabindran, Sridhar G.; Greenberger, Lee M.; Carter, Guy T.
CS Natural Products Chemistry, Wyeth-Ayerst Research, Pearl River, NY, 10965,

USA
SO Medicinal Chemistry Research (1999), 9(6), 424-437
CODEN: MCREEB; ISSN: 1054-2523
PB Birkhaeuser Boston
DT Journal
LA English
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1999:2922 CAPLUS
DN 130:177236
TI Reversal of a novel multidrug resistance mechanism in human colon **carcinoma** cells by fumitremorgin C
AU Rabindran, Sridhar K.; He, Haiyin; Singh, Maya; Brown, Eileen; Collins, Karen I.; Annable, Tami; Greenberger, Lee M.
CS Oncology and Immunology Research, Wyeth-Ayerst Research, Pearl River, NY, 10965, USA
SO Cancer Research (1998), 58(24), 5850-5858
CODEN: CNREA8; ISSN: 0008-5472
PB AACR Subscription Office
DT Journal
LA English
RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> e leukemia
E1 7 LEUKEMA/BI
E2 2 LEUKEMI/BI
E3 77060 --> LEUKEMIA/BI
E4 2 LEUKEMIA1/BI
E5 1 LEUKEMIA38/BI
E6 1 LEUKEMIA6/BI
E7 1 LEUKEMIA72/BI
E8 1 LEUKEMIAC/BI
E9 1 LEUKEMIADERIVED/BI
E10 2 LEUKEMIAE/BI
E11 2 LEUKEMIAINHIBITING/BI
E12 1 LEUKEMIAINTO/BI

=> s e3
L9 77060 LEUKEMIA/BI

=> s l9 and l4
L10 2 L9 AND L4

=> d l10 1 2

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 1999:511178 CAPLUS
DN 131:143080
TI A multidrug resistance protein associated with antitumor drug resistance in breast cancer and a cDNA encoding it
IN Ross, Douglas D.; Doyle, L. Austin; Abruzzo, Lynne
PA University of Maryland, Baltimore, USA
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

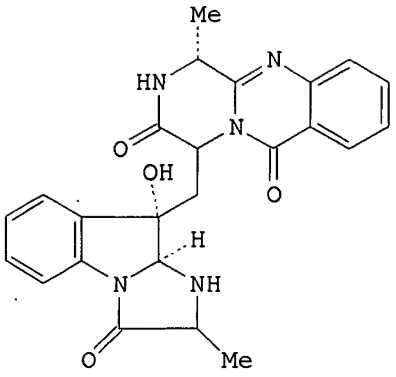
PI	WO 9940110	A1	19990812	WO 1999-US2577	19990205
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2319715	AA	19990812	CA 1999-2319715	19990205
	AU 9927610	A1	19990823	AU 1999-27610	19990205
	AU 755567	B2	20021212		
	EP 1054894	A1	20001129	EP 1999-908097	19990205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 6313277	B1	20011106	US 1999-245808	19990205
	JP 2002502592	T2	20020129	JP 2000-530538	19990205
	US 2003036645	A1	20030220	US 2001-961086	20010921
PRAI	US 1998-73763P	P	19980205		
	US 1999-245808	A3	19990205		
	WO 1999-US2577	W	19990205		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese

=> d l10 2 all

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 1992:210833 CAPLUS
DN 116:210833
TI Structures of cytotoxic substances and new quinazoline derivatives produced by a fungus from a saltwater fish
AU Numata, Atsushi; Takahashi, Chika; Miyamoto, Tamie; Matsushita, Tomochika; Kawai, Kenzo; Usami, Yoshihide; Matsumura, Eiko; Inoue, Masatoshi; Ohishi, Hirofumi; Shingu, Tetsuro
CS Osaka Univ. Pharm. Sci., Osaka, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1991), 33rd, 723-30
CODEN: TYKYDS
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI



II

AB Fifteen metabolites were isolated from the mycelium and culture filtrate of a strain of Aspergillus fumigatus which existed in the gastrointestinal tract of the saltwater fish Pseudolabrus japonicus. Among them, TR-2, fumitermorgin C and gliotoxin exhibited significant cytotoxicity against the cultured P-388 lymphocytic **leukemia** cells. Anal. of long range 1H-13C COSY and other spectral data for the 5 new metabolites [fumiquinazoline (AFQ-A) (I), -B (II)), -C (III), -D (IV) and -E (V)], exhibiting marginal or moderate cytotoxicity, allowed assignment of their structures contg. quinazolone and indoline moieties. The ab. stereostructure of III was detd. on the basis of x-ray crystallog. anal. as well as of the prodn. of L-(+)-alanine by acid hydrolysis. The stereochem. of the other metabolites was established by deriving I and V from IV and other chem. behavior.

ST Aspergillus fumiquinazoline cytotoxicity structure

IT Nomenclature, new natural products
(fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Aspergillus fumigatus
(fumiquinazolines from, structure and cytotoxicity of)

IT Molecular structure, natural product
(of fumiquinazoline A (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline B (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline C (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline D (quinazoline), from Aspergillus fumigatus)

IT Molecular structure, natural product
(of fumiquinazoline E (quinazoline), from Aspergillus fumigatus)

IT Neoplasm inhibitors
(**leukemia**, fumiquinazolines as, from Aspergillus fumigatus)

IT 140715-88-4P 140715-89-5P 140715-90-8P 140852-72-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 67-99-2, Gliotoxin 253-82-7D, Quinazoline, derivs. 12771-72-1, Verruculogen 51177-07-2 62867-47-4, Fumigaclavine C 74149-38-5 **111427-99-7**, TR 3 111468-06-5 115589-18-9 **118974-02-0**, Fumitremorgin C 137494-04-3 140715-85-1, Fumiquinazoline A 140715-86-2, Fumiquinazoline D 140715-87-3, Fumiquinazoline E 140852-71-7, Fumiquinazoline B 140924-01-2, Fumiquinazoline C
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure and cytotoxic activity of, from Aspergillus fumigatus)

=> d his

(FILE 'HOME' ENTERED AT 15:49:45 ON 02 JUN 2003)

FILE 'REGISTRY' ENTERED AT 15:49:57 ON 02 JUN 2003
E FUMITREMORGIN
L1 36 S E3

FILE 'CAPLUS' ENTERED AT 15:56:12 ON 02 JUN 2003
E NEOPLASM
L2 294365 S E3-E12
E CANCER
L3 188215 S E3
L4 115 S L1
L5 8 S L4 AND L2
L6 12 S L4 AND L3
E CARCINOMA
L7 100333 S E3
L8 3 S L7 AND L4
E LEUKEMIA
L9 77060 S E3
L10 2 S L9 AND L4

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	67.00	87.19

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.95	-1.95

STN INTERNATIONAL LOGOFF AT 16:12:22 ON 02 JUN 2003

AN 1996:96400 CAPLUS
DN 124:193617
TI Non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line
AU Naito, Seiji; Hasegawa, Shuji; Yokomizo, Akira; Koga, Hirofumi; Kotoh, Shuji; Kuwano, Michihiko; Kumazawa, Joichi
CS Fac. Medicine, Kyushu Univ., Fukuoka, 812, Japan
SO Japanese Journal of Cancer Research (1995), 86(11), 1112-18
CODEN: JJCREP; ISSN: 0910-5050
PB Japanese Cancer Association
DT Journal
LA English
CC 1-6 (Pharmacology)
AB A human bladder cancer cell line resistant to adriamycin (ADM), T24/ADM9 has been established in vitro by exposing T24 parent cells to progressively higher concns. of the drug over a period of 12 mo. The T24/ADM9 cells were 9 times more resistant to ADM than the T24 parent, and showed various degrees of cross-**resistance** to an ADM deriv., vinca alkaloids and a DNA topoisomerase II (Topo II)-targeting agent, etoposide. No significant difference was obsd. in the cellular accumulation of ADM between the T24/ADM9 and T24 parent cells. A Northern blot anal. showed an overexpression of multidrug **resistance** -assocd. protein (**MRP**) mRNA, but no overexpression of multidrug **resistance**-1 (MDR1) mRNA was obsd. in the T24/ADM9 cells. A flow cytometric anal. showed that the MDR1 gene product, P-glycoprotein (Pgp), is not expressed on the T24/ADM9 cells. T24/ADM9 showed approx. the parental level of DNA Topo II catalytic activity. In Western blot and Northern blot analyses, however, the cellular level of DNA Topo II was apparently much lower in T24/ADM9 than in the T24 parent. Thus, these results suggest that a decreased cellular level of DNA Topo II and an overexpression of **MRP** gene may be responsible for the expression of an MDR phenotype in the T24/ADM9 cells and that such non-Pgp-mediated, atypical MDR may develop in bladder cancer treated with chemotherapy including ADM.
ST atypical multidrug resistant bladder cancer cell
IT Proteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(multidrug **resistance**; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)
IT Gene, animal
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to overexpression of **MRP** gene)
IT Neoplasm inhibitors
(bladder carcinoma, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT Drug **resistance**
(multi-, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT Bladder
(neoplasm, carcinoma, inhibitors, non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)
IT 50-07-7, Mitomycin C 51-21-8, 5 Fluorouracil 57-22-7, Vincristine 865-21-4, Vinblastine **15663-27-1**, Cisplatin 33419-42-0, Etoposide 56420-45-2, Epirubicin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cross-**resistance**; non-P-glycoprotein-mediated atypical

multidrug **resistance** in a human bladder cancer cell line)

IT 142805-56-9, DNA topoisomerase II
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line in relation to decreased level of DNA Topo II)

IT 25316-40-9, Adriamycin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**resistance** to; non-P-glycoprotein-mediated atypical multidrug **resistance** in a human bladder cancer cell line)

=>

Search for 10/086,133

DN 126:16546
TI Isolation, structure determination and biological activities of novel mammalian cell cycle inhibitors, spirotryprostatins A & B, tryprostatins A & B and related new diketopiperazine derivatives produced by a fungus, Aspergillus fumigatus
AU Cui, Cheng-Bin; Kakeya, Hideaki; Osada, Hiroyuki
CS Institute Physical and Chemical Research, Japan
SO Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1996), 38th, 49-54
CODEN: TYKYDS
PB Nippon Kagakkai
DT Journal
LA Japanese
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 1
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A discussion is given on the prodn., isolation, structure detn., and biol. activities of the novel Aspergillus fumigatus diketopiperazine alkaloids spirotryprostatins A (I) and B, tryprostatins A (II) and B, and cyclotryprostatins B and D, the 3 new natural diketopiperazines cyclotryprostatins A (III) and C, and demethoxyfumitremorgin C (IV), and on several known diketopiperazines, such as fumitremorgin C. Structures of the new diketopiperazines were detd. mainly by spectroscopic methods. All of the compds. are inhibitors of the G2/M transition of tsFT210 cells at micromolar dosages. Some structure-activity relations were obsd.
ST Aspergillus diketopiperazine alkaloid cell cycle inhibitor; spirotryprostatin mammal cell cycle inhibitor Aspergillus; antitumor diketopiperazine alkaloid Aspergillus; tryprostatin mammal cell cycle inhibitor Aspergillus; **neoplasm** inhibitor diketopiperazine deriv Aspergillus
IT Mitosis
(-G2 transition; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT Interphase (cell cycle)
(G2-phase, -M transition; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT Structure-activity relationship
(antimitotic; of diketopiperazines)
IT Structure-activity relationship
(antitumor; of diketopiperazines)
IT New natural products
(cyclotryprostatin A (diketopiperazine))
IT New natural products
(cyclotryprostatin B (diketopiperazine))
IT New natural products
(cyclotryprostatin C (diketopiperazine))
IT New natural products
(cyclotryprostatin D (diketopiperazine))
IT Antitumor agents
(diketopiperazine derivs. from Aspergillus fumigatus as)
IT Aspergillus fumigatus
Fermentation
(diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT Molecular structure, natural product
(of cyclotryprostatin A (diketopiperazine))

IT Molecular structure, natural product
(of cyclotryprostatin B (diketopiperazine))
IT Molecular structure, natural product
(of cyclotryprostatin C (diketopiperazine))
IT Molecular structure, natural product
(of cyclotryprostatin D (diketopiperazine))
IT Alkaloids, biological studies
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(piperazine, dioxo; diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)
IT 111427-97-5P, Cyclotryprostatin C 111468-06-5P, Cyclotryprostatin A
111768-16-2P 118974-02-0P, Fumitremorgin C.
171864-80-5P, Tryprostatin A 179936-52-8P, Tryprostatin B
182234-25-9P, Spirotryprostatin A 182234-26-0P, Spirotryprostatin B
184305-67-7P, Cyclotryprostatin B 184305-68-8P, Cyclotryprostatin D
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(diketopiperazine derivs. produced and isolated from Aspergillus fumigatus are novel mammalian cell cycle inhibitors)